County of Los Angeles
CHIEF EXECUTIVE OFFICE
Kenneth Hahn Hall of Administration
500 West Temple Street, Room 713, Los Angeles, California 90012
(213) 974-1101
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WILLIAM T FUJIOKA
Chief Executive Officer

"To Enrich Lives Through Effective And Caring Service"

April 22, 2014

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, California 90012

Dear Supervisors:

DEPARTMENT OF PUBLIC WORKS:
STONEVIEW NATURE CENTER PROJECT
CULVER CITY
ADOPT THE REVISED MITIGATED NEGATIVE DECLARATION AND
MITIGATION MONITORING AND REPORTING PROGRAM
APPROVE CAPITAL PROJECT
APPROVE APPROPRIATION ADJUSTMENT
ACCEPT TRANSFER OF PROPERTY AND RELATED ACTIONS
SPECS. 7232; CAPITAL PROJECT NO. 70007
(SECOND DISTRICT)
(4 VOTES)

SUBJECT

Approval of the recommended actions will approve the revised Mitigated Negative Declaration and adopt the Mitigation Monitoring and Reporting Program; approve the proposed Stoneview Nature Center Project, Capital Project No. 70007; approve an appropriation adjustment to appropriate funds available to the Baldwin Hills Conservancy and allocated to the County of Los Angeles for the Stoneview Nature Center Project; accept the transfer of the Stoneview property from the Baldwin Hills Regional Conservation Authority to the County of Los Angeles; authorize the Director of Public Works or her designee to proceed with the demolition of the existing structures at the site in compliance with standard County contracting requirements for the Stoneview Nature Center project; and authorize the Department of Parks and Recreation to execute the Memorandum of Understanding between the County of Los Angeles and the City of Culver City.

IT IS RECOMMENDED THAT THE BOARD:

1. Consider the revised Mitigated Negative Declaration for the proposed Stoneview Nature Center Project, together with comments received during the public review period; find that the revised Mitigated Negative Declaration reflects the independent judgment and analysis of the Board; adopt the Mitigated Monitoring and Reporting Program, finding that the Mitigated Monitoring and Reporting Program is adequately designed to ensure compliance with the mitigation measures during the project implementation; find on the basis of the whole record before the Board that there is no substantial evidence that the project will have a significant effect on the environment; and adopt the revised Mitigated Negative Declaration.

2. Approve the Stoneview Nature Center Project, Capital Project No. 70007, with a total Project budget of $10,250,000.

3. Approve an appropriation adjustment in the amount of $5,000,000 to appropriate California Clean Water, Clean Air, Safe Neighborhood Parks, and Coastal Protection Act of 2002 Grant Funds also known as Proposition 40 for the proposed Stoneview Nature Center Project, Capital Project No. 70007.

4. Authorize the Chief Executive Officer to accept the transfer of property for the Stoneview Nature Center Project from the Baldwin Hills Regional Conservation Authority to the County of Los Angeles.

5. Authorize the Director of Public Works, or her designee, to execute consultant services agreements for conceptual design services and pay stipends in the amount of $25,000 each to the second and third highest ranked qualifying proposers that are not selected as the best-value design-builder (or to the top three highest ranked, qualifying proposers if no design-build contract is awarded) for the Stoneview Nature Center Project, enabling the County to use all design and construction ideas and concepts that will be included within their proposals.

6. Authorize the Department of Parks and Recreation to execute the Memorandum of Understanding between Los Angeles County and the City of Culver City for the design, construction, and operation of the proposed Stoneview Nature Center Project; and to amend the Memorandum of Understanding, as-needed and for the limited purpose of addressing public concerns regarding the hours of operation and programs offered at the proposed Stoneview Nature Center Project.

PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION

Approval of the recommended actions will adopt the revised Mitigated Negative Declaration (MND) and related documents; approve the proposed Stoneview Nature Center Project (Project) scope and budget; make $5,000,000 in Proposition 40 funding available to the proposed Project; accept the transfer of property for the Stoneview Nature Center (Nature Center) from the Baldwin Hills Regional Conservation Authority (BHRCA) to the County of Los Angeles; authorize the Department of Public Works (Public Works) to execute consultant services agreement for conceptual design services and pay stipends in the amount of $25,000 each to the second and third highest ranked qualifying design-build proposers; authorize the Department of Parks and Recreation (Parks and Recreation) to execute a Memorandum of Understanding (MOU) with Culver City (City) to memorialize agreement of terms related to pre- and post-construction activities.

Project Description and Background

The proposed Project will consist of the demolition of all existing structures on the Project site and the construction of a new 4,000 square-foot interpretive nature center. The demolition will include the demolition of the existing buildings, concrete and asphalt paving, site amenities such as fences and gates, and existing utilities. The proposed new interpretive Nature Center will include a 4,000-square-foot one-story community building with a multi-purpose room, staff offices, interior and exterior accessible restrooms, a programmable open terrace, yoga deck, and landscape elements such as a botanical garden, passive meadow, demonstration/community garden, native garden, nature grove, an observation area, integrated public art, a trailhead for the Park to Playa Trail, and surface parking.

In addition, the site will require closure program activities related to the abandoned Dabney Lloyd No. 3 oil well located under the existing multi-purpose room building. Closure program activities consist of investigative work to determine the oil well location, depth, conditions, and compliance with the current requirements of the Division of Oil, Gas, and Geothermal Resources.

In 2011, BHRCA acquired the five-acre project site, which was formerly operated as an elementary school. BHRCA engaged Public Works to perform due diligence work, including seismic trenching across the Alquist-Priolo Special Studies Zone Boundaries, hazardous materials testing, geotechnical borings and report, and an American Land Title Association survey. The seismic trenching found indications of seismic faults. Due to building code requirements associated with seismic faults, the only area suited for a building is on the northeastern portion of the site. This area contains uncertified fill materials of approximately 23 feet in depth. The geotechnical report prepared for this study indicates that this area of the site is potentially suitable for the nature center building if uncertified materials are removed and replaced with certified materials, or if a structural floor slab, supported by foundations that consist of either driven precast concrete piles or drilled and cast-in-place piles that extend into the natural soil are used. The proposed budget is based on a structural floor slab supported by piles subject to review and approval by jurisdictional agencies. Prior to finalization of building plans, additional studies will be performed to ensure constructability per current code requirements.

On March 5, 2013, the Board established the proposed Project, Capital Project No. 70007, with a total budget of $10,250,000; approved an appropriation of $5,250,000 in Regional Park and Open Space, Proposition A funds for the proposed Project; authorized Public Works to proceed with preparation of design build scoping documents and environmental documentation; and adopted a resolution to apply to the Baldwin Hills Conservancy (BHC) for Proposition 40 grant funds in the amount of $5,000,000.

In May 2013, BHRCA's Governing Board approved a resolution to transfer by quitclaim deed the property to Parks and Recreation for the Nature Center.

The demolition of the existing structures and the investigation of the abandoned Dabney Lloyd No. 3 oil well will be completed using a construction firm selected through a Request for Proposal. Public Works will select the responsive and responsible construction firm having submitted the most advantageous and best value proposal based on, but not limited to, qualifications and price, regardless of race, creed, color, or gender. The demolition documents are prepared by Public Works' Architectural Engineering Division, which will also provide support services during the demolition work. We will return to the Board to award the demolition contract.

The County of Los Angeles will enter into an MOU with the City to cooperatively work together to address matters related to the proposed Project for the mutual benefit of the community. The key points of the MOU (Attachment C), which has been signed by the City, are summarized as follows:

Design and Construction: The City will be given an opportunity to review and comment on the scoping documents and that construction activities will take place Monday through Friday, between 8:00 a.m. and 5:00 p.m.

Traffic and Parking: The Public Works' community shuttle, known as The Link will stop at the Nature Center from 8:00 a.m. to 5:00 p.m. on weekends and holidays, as long as there is a demonstrated demand. Free parking shall be provided to the public during operating hours of the Nature Center. Free parking at Kenneth Hahn State Recreation Area (Hahn Park) shall be provided to users of the Park to Playa trail. The County shall allocate $100,000 to fund analysis of traffic and parking, and development of potential traffic-calming and parking mitigation measures in collaboration with the City. A traffic monitoring program will be established to perform traffic counts on the streets leading to the Nature Center before construction starts and after the Nature Center is open and operating.

Activities and Operations: The activities of the Nature Center will generally consist of passive uses such as planting, yoga classes, walking, and cooking demonstration classes. The Nature Center will be staffed by Parks staff between 8:00 a.m. and 5:00 p.m. In addition, the facility will be available to the local community for community events.

Community Meetings: The County shall continuously meet on a quarterly basis with the local community stakeholders and representatives of the City to address concerns associated with the Nature Center.

Amendments: The MOU may only be amended by mutual consent of the County and the City.

The proposed Project will be completed using the design-build project delivery method. Public Works' Architectural Engineering Division is preparing the scoping documents and will provide support services during the entire design and construction period. Upon completion of the design-build request for proposal selection process, stipends of $25,000 will be provided via consultant services agreements to the second and third highest ranked, qualifying proposers that are not selected as the best value design-builder, which will afford the County the right to use the information and ideas submitted by the proposers. The second and third highest ranked qualifying proposers not selected as the design-builder will each be paid a stipend of $25,000 upon the Board's approval to execute the design-build agreement anticipated for summer 2014. Pursuant to consultant service agreements, if the Board elects not to award the design-build agreement, the top three highest ranked, qualifying proposers will each be paid the stipend of $25,000. Public Works will return to the Board to recommend award of a design-build contract to the responsive and responsible Bidder having submitted the most advantageous and best value proposal.

Green Building/Sustainable Design Program

The proposed Project will support the Board's Green Building/Sustainable Design Program by incorporating into the project design and construction sustainable features to optimize energy and water use, enhance the sustainability of the site, improve indoor environmental quality, and maximize the use and re-use of sustainable and local resources.

Implementation of Strategic Plan Goals

The Countywide Strategic Plan directs the provision of Operational Effectiveness (Goal 1) by maximizing the effectiveness of process, structure, and operations to support timely delivery of customer-oriented and efficient public services. The proposed Project is an investment in public infrastructure and will enhance recreational opportunities.

FISCAL IMPACT/FINANCING

On March 5, 2013, the Board established the proposed Project with a total budget of $10,250,000, which includes plans and specifications, plan check, demolition, construction, equipment, consultant services, civic art fee, miscellaneous expenditures, and County services. The budget reflects a realignment of $80,000 to fully fund the traffic and parking study as required by the terms of the MOU between the County and the City.

The proposed Project is funded by $5,250,000 in Proposition A grant funds allocated to the BHRCA and $5,000,000 in Proposition 40 grant funds from the BHC. The proposed Project Schedule and Budget Summary are included in Attachment A.

Approval of the attached appropriation adjustment will appropriate the $5,000,000 in Proposition 40 grant funds to the proposed Project, Capital Project No. 70007, to fully fund the proposed project.

Operating Budget Impact

Based on the Project description, Parks and Recreation anticipates one-time and ongoing operating costs. One-time funds of approximately $65,000 are needed for maintenance (tools and vehicle) and annual ongoing funds of $191,000 are needed for park supervision and various maintenance/housekeeping supplies. Parks and Recreation will work with the Chief Executive Office (CEO) to confirm the appropriate level of funding and request the one-time and ongoing funds in Parks and Recreation's Fiscal Year 2015-16 new facilities request.

FACTS AND PROVISIONS/LEGAL REQUIREMENTS

The proposed Project site is within the area covered by the Culver City General Plan. However, because it is a County project, it is subject to County planning requirements, not the City. Pursuant to California Government Code, Section 65402, the County sent a letter to the City Planning Division requesting a report as to conformity with the General Plan of the City. On November 11, 2013, the City Planning Division responded to the County's request and found that the proposed Project conformed to the City's General Plan, specifically the 2000 General Plan Land Use Element and the 1996 Open Space Element.

Pursuant to the Board's Civic Art Policy, adopted on December 7, 2004, and revised on December 15, 2009, the project budget includes an allocation of 1 percent of design and construction funds to the Civic Art Fund; the amount allocated for this Project is $70,000. The County Arts Commission will provide a pool of pre-qualified artists to the short-listed design-build proposers. The three short-listed design-build proposers will select an artist from this pool who will be an integral part of the design build design team.

On May 28, 2013, BHRCA, by Resolution No. 13-04 authorized its Executive Officer to transfer by quitclaim deed all ownership interests of BHRCA in Assessor's Parcel Numbers 4204-014-908, 4204-014-909, and 4204-014-910 to Parks and Recreation, pursuant to Section 15 of the BHRCA Joint Exercise of Powers Agreement.

ENVIRONMENTAL DOCUMENTATION

An Initial Study (IS) and a revised MND were prepared for the proposed Project in compliance with the California Environmental Quality Act (CEQA). The IS/MND and revised MND found the following environmental factors to be potentially affected by the proposed Project: air quality, biological resources, cultural resources, hazards and hazardous materials, noise, and transportation/traffic. The following is a summary of some of the mitigation measures recommended to bring potential impacts associated with these environmental factors to a less than significant level:

Air quality: replace ground cover of the disturbed areas and water the exposed surfaces at least twice daily during grading.

Biological resources: conduct preconstruction surveys. If sensitive or special status species; or federally protected wetlands or communities are present, alternative mitigation requirements are provided.

Cultural resources: if human remains are discovered during demolition/construction, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition.

Hazards and hazardous materials: conduct field sampling to assess near surface methane concentrations.

Noise: the contractor shall provide temporary shields and noise barriers, ensure that all construction equipment is properly operating and adhere to the restricted construction hours.

Transportation/Traffic: The County will allocate $100,000 to establish a traffic monitoring program and a parking management plan; and fund potential traffic calming and parking mitigation measures developed in collaboration with the City.

The revised MND determined that there is no substantial evidence, in light of the whole record before the County, that the proposed Project would have a significant effect on the environment. In accordance with CEQA requirements, the original IS/MND document was circulated for public review. The first public review lasted 60 days, commenced on June 24, 2013, and concluded on August 23, 2013. Prior to the start of the public review, copies of Notice of Intent were posted at the Project site and at the Hahn Park, directly mailed to residents of the Blair Hills community, and published in the local newspaper. Hard copies of the IS/MND were provided to Julian Dixon Library and the Hahn Park for public review. A public meeting was held on July 17, 2013.

In light of the comments received during the first public review, the IS/MND was revised. A traffic/parking study was conducted and a revised document was recirculated as requested in the comments initially received. The revised IS/MND was circulated for another 60-day public review that commenced on December 23, 2013, and concluded on February 20, 2014. Copies of Notice of Intent were posted at the Project site and the Hahn Park, directly mailed to the residents of the Blair Hills community, and published in the local newspaper. The revised IS/MND and associated materials were made available for review at Julian Dixon Library and Hahn Park. No additional public meeting was held during this additional comment period on the revised MND.

During the public review period on the revised MND, comments were received from the City, companies with interests in the surrounding oil fields, and members of the public. These comments are brought to the Board for its consideration, as part of the revised MND. In addition, staff has included responses to these comments. Traffic, congestion, and parking impacts raised in the comments were addressed in the traffic/parking study conducted as part of the revised IS/MND, as well as in the project operation provisions provided in the proposed MOU, and were mitigated to a less than significant impact. There were also comments concerning alignment of a future segment of the Park to Playa trail, a separate project for which BHRCA is the lead agency. The proposed project has been designed anticipating future pedestrian access between the Nature Center and the Park to Playa trail.

Comment letters also were received from the State Clearinghouse and the Native-American Heritage Commission.

The Mitigation Monitoring and Reporting Program and the revised IS/MND are included in Attachment B.

The location of the documents and other materials constituting the record of the proceedings upon which the Board's decision is based in this matter are filed with the County of Los Angeles Department of Public Works, Project Management Division II, 900 South Fremont Avenue, 5th Floor, Alhambra, California 91803.

The proposed Project is not exempt from payment of a fee to the California Department of Fish and Wildlife pursuant to Section 711.4 of the Fish and Game Code to defray the costs of fish and wildlife protection and management incurred by the California Department of Fish and Wildlife. Upon the Board's adoption of the revised MND, Public Works will file a Notice of Determination in accordance with Section 21152(a) of the California Public Resources Code and pay the required filing and processing fees with the Registrar-Recorder/County Clerk in the amount of $2,256.25.

CONTRACTING PROCESS

On March 5, 2013, the Board authorized the Director of Public Works, or her designee, to use an as-needed consultant services agreement with UltraSystems Environment, Inc., Agreement PW 13447, approved by the Board on February 1, 2011, to prepare the environmental documentation for the proposed Project. The as needed consultant services agreement was acquired through a qualifications-based review and selection process through Public Works' Architectural Engineering Division.

Consultant services agreements will be executed to pay stipends in the amount of $25,000 each to the second and third highest ranked, qualifying proposers that are not selected as the best-value design-builder, or to the top three highest ranking, qualified proposers if no design-build contract is awarded.

Standard contracts, in the form previously approved by County Counsel, will be used. The standard Board-directed clauses that provide for contract termination, renegotiation, and hiring qualified displaced County employees are included in the contract.

IMPACT ON CURRENT SERVICES (OR PROJECTS)

Approval of the recommended actions will have no impact on current County services or projects.

CONCLUSION

Please return one adopted copy of this Board letter to the Chief Executive Office, Facilities and Asset Management Division; and to the Department of Public Works, Project Management Division II.

Respectfully submitted,

WILLIAM T FUJIOKA
Chief Executive Officer

WTF: SHK:DJT
SW:LL:zu

c: Executive Office, Board of Supervisors
County Counsel
Arts Commission
Parks and Recreation
Public Works

ATTACHMENT A

DEPARTMENT OF PUBLIC WORKS:
STONEVIEW NATURE CENTER PROJECT
CULVER CITY
ADOPT THE REVISED MITIGATED NEGATIVE DECLARATION AND MITIGATION MONITORING AND REPORTING PROGRAM
APPROVE CAPITAL PROJECT
APPROVE APPROPRIATION ADJUSTMENT
ACCEPT TRANSFER OF PROPERTY AND RELATED ACTIONS
SPECS. 7232; CAPITAL PROJECT NO. 70007
(SECOND DISTRICT)
(4 VOTES)

I. PROJECT SCHEDULE

Project Activity	Scheduled Completion Date	Revised Scheduled Completion Date
Environmental Documentation	03/21/14	03/31/14
Scoping Documents	02/27/14	02/27/14
Demolition – Site Preparation	05/31/14	09/30/14
Design-Build Award	07/31/14	08/26/14
Notice To Proceed	09/10/14	10/15/14
Design and Construction		
Substantial Completion	12/31/15	02/29/16
Construction Completion	01/31/16	04/27/16
Acceptance	02/28/16	05/27/16

II. PROJECT BUDGET SUMMARY

Project Activity	Approved Project Budget	Impact Of This Action	Proposed Project Budget
Land Acquisition	$ 0		$ 0
Construction			
Design-Build	$ 7,000,000	$ (230,000)	$ 6,770,000
Stipends	$ 0	$ 75,000	$ 75,000
Design Completion Allowance	$ 250,000	$ 75,000	$ 325,000
Change Orders	$ 600,000	$ 0	$ 600,000
Demolition	$ 500,000	$ 0	$ 500,000
Oil Well Abandonment –			
Methane	$ 250,000	$ 0	$ 250,000
Control	$ 70,000	$ 0	$ 70,000
Civic Arts	$ 5,000	$ 0	$ 5,000
Youth Employment	$ 8,675,000	$ (80,000)	$ 8,595,000
Subtotal			
Programming/Development	$ 0	$ 0	$ 0
Plans and Specifications (Scoping Documents and Demolition)	$ 160,000	$ 0	$ 160,000
Consultant Services			
Hazardous Materials	$ 20,000	$ 0	$ 20,000
Geotechnical, Soils			
Report/Testing,	$ 100,000	$ 0	$ 100,000
and Inspection	$ 50,000	$ 0	$ 50,000
Materials Testing	$ 55,000	$ 30,000	$ 85,000
Environmental Documentation	$ 10,000	$ 0	$ 10,000
Cost Estimating	$ 50,000	$ 50,000	$ 100,000
Traffic Mitigation	$ 285,000	$ 80,000	$ 365,000
Subtotal			
Miscellaneous Expenditures	$ 5,000	$ 0	$ 5,000
Jurisdictional Review/Plan Check/Permit (Building and Safety)	$ 100,000	$ 0	$ 100,000
County Services			
Quality Control – Code			
Compliance Inspection	$ 310,000	$ 0	$ 310,000
Contract Administration	$ 120,000	$ 0	$ 120,000
Project Management	$ 440,000	$ 0	$ 440,000
Secretarial	$ 15,000	$ 0	$ 15,000
Document Control	$ 30,000	$ 0	$ 30,000
Project Technical Support	$ 50,000	$ 0	$ 50,000
Consultant Contract Recovery	$ 45,000	$ 0	$ 45,000
Office of Affirmative Action	$ 15,000	$ 0	$ 15,000
Subtotal	$ 1,025,000	$ 0	$ 1,025,000
Total	**$ 10,250,000**	**$ 0**	**$10,250,000**

ATTACHMENT B

DEPARTMENT OF PUBLIC WORKS:
STONEVIEW NATURE CENTER PROJECT
CULVER CITY
ADOPT THE REVISED MITIGATED NEGATIVE DECLARATION AND MITIGATION MONITORING AND REPORTING PROGRAM
APPROVE CAPITAL PROJECT
APPROVE APPROPRIATION ADJUSTMENT
ACCEPT TRANSFER OF PROPERTY AND RELATED ACTIONS
SPECS. 7232; CAPITAL PROJECT NO. 70007
(SECOND DISTRICT)
(4 VOTES)

I. FINAL REVISED MITIGATED NEGATIVE DECLARATION AND MITIGATION MONITORING AND REPORTING PROGRAM

REVISED INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
STONEVIEW NATURE CENTER

Prepared for:

County of Los Angeles Department of Public Works
900 South Fremont Avenue, 5th Floor
Alhambra, CA 91803
Contact: Alioune Dioum, PE
Project Manager
(626) 300-3273

Prepared by:

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(949) 788-4900

April 2014

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EXECUTIVE SUMMARY

This revised Draft IS/MND was prepared according to requirements of the California Environmental Quality Act (CEQA) to evaluate potential environmental impacts that would result from the construction and operation of the proposed Stoneview Nature Center in Culver City, California (project). A Draft Initial Study/Mitigated Negative Declaration (IS/MND) was prepared previously by the County of Los Angeles (County) for the proposed project in June 2013, and circulated for public review and comment for 60 days. A public hearing was held in July 2013. The County has elected to prepare this revised Draft IS/MND to address the public comments received, and re-circulate this draft for a second 60-day comment period. This revised Draft IS/MND supersedes and replaces the previous draft. The County will prepare responses to comments, if any, received during the second 60-day comment period. Comments and responses will be provided to decision-makers for their consideration regarding action on the project.

The County is the Lead Agency under CEQA because the County has the principal responsibility and discretionary authority for implementing and approving the project (14 CCR § 15051). Following a consultation request from the County, the Culver City Planning Division has found that the County project conforms to the Culver City 2000 General Plan Land Use Element, and the 1996 Open Space Element pursuant to California Government Code § 65402.

Background

The five-acre project site is located at 5950 Stoneview Drive in Culver City, and is included in the Baldwin Hills Park Master Plan. The 401-acre Kenneth Hahn State Recreation Area is approximately 1,000 feet to the east on the opposite side of La Cienega Boulevard. The project site was formerly operated as an elementary school, and was acquired by the Baldwin Hills Regional Conservation Authority (BHRCA) in 2011. BHRCA proposes to transfer the property title to the County as the sole owner as part of the project actions.

Existing Condition

The site is currently occupied by eight vacant single story masonry buildings with a total area of approximately 15,000 square feet. These buildings are abandoned, closed, and in a dilapidated state. The site contains approximately 17 to 23 feet of non-engineered fill material that may have been derived from fossiliferous rocks. Approximately 51% of the site is covered by asphalt and concrete pavement, 42% by landscaping, and 7% by the existing buildings. The project site is surrounded by single-family residences to the north and northeast, the active Inglewood Oil Field to the south and southeast, and open space to the west. An abandoned oil well is located underneath the existing multipurpose building, and an active high-pressure gasoline pipeline operated by Chevron Pipeline Company traverses the site in the north-south direction. The project site overlies the Mineral Rights Boundary of the Inglewood Oil Field.

Proposed Project

The primary project features of the proposed Stoneview Nature Center will include the Stoneview Nature Center Building, landscape elements, and a parking lot. The proposed project would include a transfer of the property to the County; demolition of existing structures, paving, and non-native trees; re-abandonment of the Dabney Lloyd No. 3 oil well after building demolition; and construction of a new public Stoneview Nature Center and fencing. The new center would include a one-story, approximately 4,000-square-foot building, parking, and landscaping. The County Department of Parks and Recreation would operate and maintain the Stoneview Nature Center.

The proposed Stoneview Nature Center project would restore a developed urban space substantially to its natural condition and provide valuable resources for birds, plants, and animals. It will provide education on the native flora and fauna of Los Angeles County, as well as enhance recreational opportunities to the residents of Los Angeles County that promote a healthy lifestyle and strengthen the community through diverse physical, educational and cultural programming.

Potential Environmental Impacts

This IS/MND found the following environmental factors to be potentially affected by the proposed project.

- Air Quality: Construction activities may generate fugitive dust.

- Biological Resources: Construction activities may impact limited habitat for California protected species and migratory birds by removing existing ornamental trees and shrubs.

- Cultural Resources: Grading and other construction activities may expose fossils or human remains within fill material.

- Hazards and Hazardous Materials: The buried gasoline pipeline within a Chevron Pipeline Company right-of-way traverses the property. Methane gas may accumulate beneath the floor slab of the proposed Stoneview Nature Center because naturally occurring methane may occur in the soil of the Project site due biogenic (swamp or sewer) gas, thermogenic (oil field) gas, and processed natural (or piped) gas within the Inglewood Oil Field.

- Noise: Construction operations and equipment may temporarily increase noise levels.

- Traffic: Based on conservative assumptions, weekend visitors may increase vehicle trips to and from the Stoneview Nature Center above the Culver City threshold of 120 trips per day.

Mitigation Measures

Table ES-1 summarizes the mitigation measures recommended to bring potential impacts associated with these environmental factors to a less than significant level.

Table ES-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

! = Potentially Significant Impact   < = Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation Measure	Mitigation Measure	Level of Significance After Mitigation Measure
4.3 Air Quality			
4.3d: Localized short-term air pollution during construction	!	AQ-MM-1: Replace ground cover of disturbed area. AQ-MM-2: Water exposed soils during grading	<
4.4 Biological Resources			
4.4a: Candidate, sensitive, or special status species	!	BIO-MM-1: Non-avian pre-construction survey and monitoring	<
4.4d: Migratory and/or nesting birds	!	BIO-MM-2: Avian pre-construction survey and monitoring	<
4.5 Cultural Resources			
4.5c: If paleontological resources encountered	!	CUL-MM-1: Paleontological monitor	<
4.5d: If human remains encountered	!	CUL-MM-2: County Coroner inspection	<
4.8 Hazards and Hazardous Materials			
4.8b Explosive hazard	!	HHM-MM-1: General Specifications for Buried Lines	<
4.8b Explosive hazard	!	HHM-MM-2: Encroachment Guidelines	<
4.8b Explosive hazard	!	HHM-MM-3: Methane gas testing and mitigation	<

Table ES-1 (Cont'd.)

4.12 Noise			
4.12a: Construction noise and pile-driving	!	N-MM-1: Temporary shields and noise barriers N-MM-2: Properly operating construction equipment and mufflers N-MM-3: Limits on construction hours	<
4.12b: Groundborne vibration	!	N-MM-4: Resilient pad between the pile and the hammer head	<
4.12d: Temporary Increase in noise levels	!	See N-MM-1 and N-MM-4	
4.16 Transportation and Traffic			
4.16a: Increased weekend traffic on residential streets 4.16a: Impacts on neighborhood parking during special events 4.16a: Impacts on neighborhood parking during construction	!	T-MM-1: Traffic and Parking Surveys T-MM-2: Traffic calming measures in cooperation with City of Culver City T-MM-3: Parking management plan T-MM-4: Construction vehicles shall not park on nearby streets.	<

1.0 INTRODUCTION

A Draft Initial Study/Mitigated Negative Declaration (IS/MND) was prepared previously by the County of Los Angeles (County) for the proposed Stoneview Nature Center (project) in June 2013, and circulated for public review and comment for 60 days between June 24 and August 23, 2013. A public hearing was held on July 17, 2013. The County has elected to revise and recirculate the revised IS/MND, as requested in the first comment period, and to draft responses to comments, if any, received during a second 60-day comment period for the recirculated document. The revised draft document supersedes the earlier draft document.

Below is a summary of revisions to the IS/MND based on comments received from the public during the initial review period. The revised document changes include, but are not limited to, the following:

- The rationale for the selection of the County as the Lead Agency for the IS/MND was added, and a description of the land use consultation process on City General Plan consistency for the County project was included.
- The project description was clarified and detailed for construction and operation activities at the nature center.
- The baseline year for impact analysis was changed from 2010, when the facility was occupied by the Ohr Eliyahu Academy (school), to 2013, when the facility was vacant.
- A traffic study and parking analysis for the onsite and off-street planned parking capacity was completed.
- Discussion of the Park to Playa separate trail project was expanded.
- City thresholds of significance for traffic and noise were clarified, and used to analyze the County project.
- An acknowledgment was added indicating that future exploration and oil field development may occur within the adjacent Inglewood Oil Field south and southeast of the Stoneview Nature Center.
- A discussion was added to address potential hazards to the oil field from potential cigarette smoking and vandals during construction and operations at the Stoneview Nature Center.
- A discussion was added regarding: (1) stormwater runoff quantity and quality that may result from proposed construction and operations at the Stoneview Nature Center, and (2) a buried gasoline pipeline that traverses the property.
- The geotechnical report and revised traffic study were included as appendices.
- Other clarifying language was added throughout the document.

Responses to comments are provided in Appendix H.

1.1 Purpose and Legal Authority of the Revised Initial Study

1.1.1 Purpose of the IS/MND

The revised Draft IS/MND (hereafter referred to as IS/MND) was prepared to evaluate potential environmental impacts that would result from the construction and operation of the Stoneview Nature Center. This IS/MND was prepared according to requirements of the California Environmental Quality Act (CEQA) *State CEQA Guidelines*[1] to analyze direct, indirect, and cumulative environmental effects of the proposed project. The IS/MND is a critical component of the environmental review process that provides decision-makers, public agencies, private groups, and individuals with an objective assessment of the significance of potential environmental impacts that may result from construction and operation of the proposed project.

1.1.2 Legal Authority of the IS/MND

The project site is on land within Culver City that will be transferred to the County from Baldwin Hills Regional Conservation Authority (BHRCA). The County is the Lead Agency under CEQA because the County has the principal responsibility and discretionary authority for implementing and approving the project (14 CCR § 15051). The Culver City Planning Division has found that the project conforms to the Culver City 2000 General Plan Land Use Element, and the 1996 Open Space Element Pursuant to California Government Code § 65402 (City of Culver City, 2013).

Section 15063(a) of the *State CEQA Guidelines*[2] requires that "Following preliminary review, the Lead Agency shall conduct an Initial Study (IS) to determine if the project may have a significant effect on the environment." If, as a result of the Initial Study, the Lead Agency finds that there is evidence that any aspect of the proposed project may cause a significant environmental effect, the Lead Agency shall further find that an Environmental Impact Report (EIR) is warranted to analyze environmental impacts. However, if on the basis of the IS, the Lead Agency finds that the proposed project will not cause a significant effect on the environment, either as proposed or as modified to include the mitigation measures identified in the IS, a Negative Declaration or Mitigated Negative Declaration shall be prepared for that pending action.

Section 15063(d) of the *State CEQA Guidelines* identifies specific disclosure requirements for inclusion in an IS. Pursuant to those requirements, an IS includes the following:

- A description of the project, including the location of the project.
- An identification of the environmental setting.
- An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries. The brief explanation may be either through a narrative or a reference to another information source such as an attached map, photographs, or an earlier EIR or negative declaration. A reference to another document should include, where appropriate, a citation to the page or pages where the information is found.

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[1] California Code of Regulations (CCR), Title 14, Chapter 3, § 15000 *et seq.*,

[2] http://ceres.ca.gov/ceqa/guidelines/. Accessed November 2013

- A discussion of ways to mitigate significant effects identified, if any.
- An examination of whether the project is compatible with existing zoning, plans and other applicable land use controls.
- The name of the person or persons who prepared or participated in the preparation of the IS.

1.2 IS/MND Process

1.2.1 Notice of Availability

After the revised Draft IS/MND is complete and ready for public review, a Notice of Availability (NOA) for the IS/MND will be released to the public. The IS/MND will be circulated for review and comment by the public, responsible and trustee agencies, and other interested parties for a period of 60 days.

1.2.2 IS/MND Contact Information

Comments or questions regarding the IS/MND should be addressed to:

Alioune Dioum, P.E. – Project Manager
LA County Department of Public Works
900 S. Fremont Ave., 5th Floor
Alhambra, CA 91803
Phone: (626) 300-3273
Email: adioum@dpw.lacounty.gov

1.2.3 Response to Comments

If comments are received during the 60-day review period, a Response to Comments document will be prepared for consideration by decision-makers.

1.2.4 Mitigation Monitoring and Reporting Plan

A Mitigation Monitoring and Reporting Plan (MMRP), which specifies the recommended mitigation measures, the implementation stage, and the enforcement agency, will be prepared.

1.2.5 Adoption by Lead Agency

The County will consider the Final Revised IS/MND and MMRP together with any comments received on the revised and recirculated document at a regularly scheduled Board of Supervisors meeting, which generally are held on Tuesdays in the Board of Supervisors Hearing Room located at 500 West Temple Street, Room 381B, Kenneth Hahn Hall of Administration in Los Angeles. The date for consideration of comments by the Board will be posted on the Board's meeting agenda.[3]

[3] http://bos.co.la.ca.us/BoardMeeting/BoardAgendas.aspx

1.3 Documents Incorporated by Reference

Pursuant to *State CEQA Guidelines*, § 15150, this IS/MND incorporates by reference all or portions of other technical documents that are a matter of public record. Those documents either relate to the proposed project or provide additional information concerning the environmental setting for the project. Where all or a portion of another document is incorporated by reference, the incorporated language shall be considered to be set forth in full as part of the text of this IS/MND.

1.4 Required Approvals

The project may require the following regulatory permits or approvals from Responsible Agencies who would rely in part upon the information in this IS/MND when making their determinations:

- General National Pollutant Discharge Elimination System (NPDES) General Permit issued by State Water Resources Control Board (SWRCB).

2.0 PROJECT DESCRIPTION

2.1 Project Location/Project Ownership Transfer

The five-acre project site is located at 5950 Stoneview Drive in the City of Culver City, across La Cienega Boulevard from the Kenneth Hahn State Recreation Area. The project site was formerly operated as an elementary school between 1956 and 2010, when the site was vacated, and was acquired by BHRCA in 2011. BHRCA proposes to transfer the property title to the County as the sole owner as part of the project actions. The location of the project site is shown in **Figure 2.1-1**, Site Location Map. The project site is surrounded by single-family residences to the north and northeast, the active Inglewood Oil Field to the south and southeast, and open space to the west.

2.2 Existing Land Use

The site is currently occupied by eight vacant single story masonry buildings with a total area of approximately 15,000 square feet. These buildings are abandoned, closed, and in a dilapidated state. An abandoned oil well is located underneath the existing multipurpose building. An active high-pressure gasoline pipeline operated by Chevron Pipeline Company traverses the site in the north-south direction. Approximately 51% (111,200 square feet) of the site is covered by asphalt and concrete pavement, 42% (91,500 square feet) by landscaping, and 7% (15,300 square feet) by the existing buildings.

2.3 Proposed Project Characteristics

The proposed Stoneview Nature Center project will restore a developed urban space substantially to its natural condition and provide valuable resources for birds, plants, and animals. It will provide education on the native flora and fauna of Los Angeles County, as well as enhance recreational opportunities to the residents of Los Angeles County that promote a healthy lifestyle and strengthen the community through diverse physical, educational and cultural programming. The primary project features of the proposed Stoneview Nature Center will include a Nature Center Building, landscape elements, and a parking lot. The project components are described in detail below and summarized in **Table 2.3-1**.

Table 2.3-1
PROJECT FEATURES

Name	Size (Approx. S.F.)	Function
Nature Center Building	4,000	Exhibits, multi-purpose room, support space, lobby, staff offices, accessible, restrooms, kitchen, and exterior terrace.
Landscape Elements	164,000	Botanical garden, passive meadows, demonstration/community garden, native garden, nature grove, and an observation area.
Parking Lot/Site Amenities	50,000	Parking lot, exterior terrace, observation deck, and various site amenities

2.3.1 Nature Center Building

The new 4,000 square feet Stoneview Nature Center Building will be located at the Northeast portion of the site, as shown on **Figure 2.3-1**, Conceptual Site Plan. The Stoneview Nature Center will include a multi-purpose room, kitchen, staff offices and interior accessible restrooms. The space program of the Nature Center Building is as follow:

Table 2.3-2
NATURE CENTER SPACE PROGRAM

Name	Quantity	Size (Approx. Net S.F.)
Common Entry Lobby	1	600
Reception Counter	1	96
Multi-Purpose Room	1	750
Audio Visual Storage	1	120
Public Toilet Rooms	2	440
Kitchen	1	253
Dry Storage	1	110
Administrative Offices	2	300
Janitor	1	56
Staff Toilets	2	128
Storage	1	100
Electrical	1	64
Main Communications Room	1	64
Other Space	-	919
TOTAL	16	4,000

Conceptual illustrations of the Stoneview Nature Center building are provided in **Figure 2.3-2**, Rendering of Nature Center Building and **Figure 2.3-3,** Elevation of Nature Center Building.

Functions of Nature Center Building Components

Common Entry Lobby: The Common Entry Lobby will accommodate approximately 40 people maximum. It will provide a friendly and welcoming entry with ease of access to all spaces. It will serve as an exhibit space for various movable and interactive cultural and historical exhibits.

Reception Counter: The Reception Counter will be occupied by two staff members of the Department of Parks and Recreation to provide information and handouts to park patrons.

Multi-Purpose Room: The Multi-Purpose Room will accommodate up to 50 people and will be used for various activities that include exhibits, meetings, community events, recreational programs, and special events. As part of the Interpretive Program, the Multi-Purpose Room may be used for exhibits or other activities such as cooking demonstrations

Audio Visual Storage: The Audio Visual Storage will be used to store the Audio Visual equipment and furniture used in the Multipurpose Room.

Public Toilet Rooms: There will be two public toilet facilities, one for each sex, to be used by the park patrons.

Kitchen: The Kitchen will be used to cater community and special events.

Dry Storage: Dry storage for the kitchen

Administrative Offices: There will be two administrative offices occupied by the Department of Parks and Recreation staff to run day-to-day business functions of the Stoneview Nature Center.

Janitor's Room: It is used to store the housekeeping supplies.

Staff Toilet Room: There will be two single accommodation toilet rooms, one for each sex, to be used by the office staff.

Storage: General storage for the building.

Electrical Room and Main Communications Room: Used for electrical, phone, and data equipment.

Exterior Terrace: The Exterior Terrace will provide outdoor space adjacent to and with direct access from the Multi-Purpose Room for various functions at the building entrance.

Observation Area: The Observation Area will provide an outdoor area adjacent to and with direct access from the Multi-Purpose Room to enjoy the vistas to the east of the Nature Center Building.

2.3.2 **Landscape Elements**

The landscaping will be comprised of native plants and drought tolerant plants, which include plants with low water requirements, low maintenance, and non-invasive species. Proposed planting areas and tree wells will be watered by an automatic irrigation system that is compliant with the Model Water Efficient Landscape Ordinance and AB1881. Topsoil will be imported for the planting of the landscaping. A landscaping buffer will be provided along Stoneview Drive to separate the Stoneview Nature Center from Stoneview Drive and the single family homes located north of Stoneview Drive. Large deciduous shade trees will be planted on the south side of the Stoneview Nature Center Building for cooling summer shade. Low Impact Development (LID) features such as bioswales and detention basins will be installed throughout the park. Runoff water will be directed from the parking lot and the Nature Center Building roof to these LID features.

Within the park, the following landscape features will be provided to restore the site to a natural condition:

Botanical Garden: The Botanical Garden will include drought tolerant, non-invasive ornamental planting area with interesting species. It will also contain a butterfly habitat.

Demonstration/community garden: The demonstration garden will show how native plants, composting, vegetables, and low impact development features such as bioswales can be implemented in residential applications. Interpretive themes will be incorporated into various features of the demonstration/community garden.

Nature Grove: Native trees such as Coastal Live Oak, Black Walnut, Laurel Sumac and Western Sycamore will be planted in mass and in various sizes.

Native Garden: The Native Garden will include a Coastal Sage Scrub area comprised of container stock, native plants such as white and purple sage, toyon, mulefat, prickly pear cactus, purple needle grass, plantain, California goldfield, dune primrose, bush sunflower, golden yarrow, blue-eyed grass, giant wild rye, California aster, heart-leaved penstemon, arroyo lupine, California poppy, and popcorn flower.

Passive meadow: Gentle and rolling topography will be created to provide for horizontal interest. Areas will be hydroseeded using a native meadow, wildflower mix comprised of Southern California appropriate species, both annual and perennial.

Yoga Deck: A Yoga deck comprised of rubberized, resilient surfacing with concrete base and curbing will be installed. Vegetated screening will be installed on the south and west sides of the Yoga deck area.

Walking paths/trails: Eight-foot wide Americans with Disability Act (ADA) compliant walking paths/trails will be provided throughout the park area. These shall be comprised of stabilized decomposed granite surfacing with gravel base and concrete headers. A perimeter landscape buffer that provides screening and considers views from the Nature Center Building and various points will be installed along the walking paths.

Seating areas: Eight-foot wide ADA compliant backless benches will be provided throughout the park.

Exercise Areas: Low maintenance, body resistance type of exercise equipment for a well-balanced workout will be installed at the exercise areas.

2.3.3 Parking Lot/Site Amenities

Parking: A new 61-space ADA compliant parking lot will be located at the north side of the Stoneview Nature Center. The parking lot will be subdivided into a small parking lot consisting of 16 stalls and a large parking lot consisting of 45 stalls. The small lot will be located near the new driveway entrance and separated from the large parking lot by two sets of swing gates, as shown in **Figure 2.3-1**, Conceptual Site Plan. An ADA compliant path of travel will link the parking lot to the Nature Center Building and other amenities. Parking for bicycles will be provided no further than 50 feet from the entrance of the Stoneview Nature Center Building.

A new vehicular entrance on Stoneview Drive will provide the only vehicular access to the project site and will lead to the 61-space parking lot. A covered educational kiosk with a site map, interpretive signage to describe various site features and an area for posting community related information, will be built at the Nature Center entry area.

Lighting: Security lighting will be installed throughout the parking lot and at the exterior of the Stoneview Nature Center Building. The security lighting will be shielded and directed downward to avoid glare and excessive lighting off-site, and to protect the night sky. The light pole height will be 20 feet maximum. The parking lot lighting will be turned off after operating hours or after special events. Low level interior lights could be left on after hours for police patrols.

Fence/Gates: The entire Stoneview Nature Center will be surrounded by a fence. At the north, along Stoneview Drive, an eight-foot high decorative tubular steel fence and gates will be installed. A pair of lockable swing gates and an ADA compliant lockable metal pedestrian gate will be provided along Stoneview Drive for access to and from Stoneview Drive. The remaining perimeter of the Nature Center will be surrounded by an eight-foot high expanded metal fence. A gate will be provided for a future trail connection to access Segment C of the Park to Playa trails proposed to be accessible from the south side of the Stoneview Nature Center. Gates will be locked after operating hours to prevent access to the Stoneview Nature Center site. A landscape buffer will be provided along Stoneview Drive to separate the Stoneview Nature Center from the surrounding neighborhood.

Utilities: New domestic water, fire service, sanitary sewer, and gas lines will be installed. They will be connected to the existing water, sanitary, and gas lines on Stoneview Drive. A seismic shut-off valve will be provided for the gas line. New electrical, telephone, and Cable TV services will be provided as well, and will be connected to the existing lines. Infrastructure and utilities for the site are as follows:

- Electricity: Southern California Edison Company
- Water: Golden State Water Company
- Gas: Southern California Gas Company
- Telephone: AT&T
- Cable TV: To be determined

2.4 Operations Plan

The Stoneview Nature Center will be established as a County Nature Center to complement the existing natural areas programs throughout the County. The interpretive nature center will be operated as a satellite facility of Kenneth Hahn State Recreation Area under the Regional Facilities Agency.

Mission Statement: The Stoneview Nature Center will be committed to building a healthier community; it is designed with an emphasis on urban gardening which showcases healthy, sustainable living, and its interconnected relationship to the cultural and natural landscape of the site. The center will provide recreational and passive leisure opportunities for surrounding residents and park patrons.

Hours of Operations and Staffing Plan: The center will be open daily from 8:00 am until 5:00 pm, (unless otherwise noted for night community meetings, voting, and/or special programs) and be staffed by the County of Los Angeles Department of Parks and Recreation employees; the facility will be managed by a County Regional Park Superintendent I. Daily maintenance, upkeep, repairs, and overall operation of the facility will be provided by the County of Los Angeles.

Parking Lot Operation: The parking lot, comprised of 61 spaces for patrons and staff, will be open during normal operating hours from 8:00 a.m. to 5:00 p.m. Parking will be free to the public; additional free parking will be available at Kenneth Hahn State Recreation Area in the lower Olympic Forrest section of that facility.

Programming: The facility will host park activities, community meetings, voting, educational training and safety classes for staff, volunteers and residents; the determined capacity of the multi-purpose room will dictate the maximum capacity for events/programs held in the room.

Special Event Policy: For the purposes of the Stoneview site, a special event is defined an event held on park property which is commonly used as a public recreational area and may require additional services of Los Angeles County Parks beyond those the Department provides its visitors under normal everyday circumstances; and/or has activities which require issuing one or more additional licenses or permits (fire, alcoholic beverages, food sales, concessions, park closures, tents, and stages; any organized event involving more than 24 persons within the park unit).

Characteristics of Special Events may include:

- Activities that are significantly different from general park use;
- Participants are charged additional fees beyond regular facility use fees;
- There is a greater potential hazard or liability to the County than is incurred through typical daily park activities;
- The event requires exclusive use of an area within the park;
- The event interferes significantly with the public's use of an area (this type of event should not occur during peak seasons or result in the closure of the entire unit to the public);
- There is a need for additional staffing;
- The activity involves the sale of items or services.

The County of Los Angeles Department of Parks and Recreation will limit the attendance at outdoor special events held at the nature center; attendance will not exceed 100 persons for any one scheduled event. A maximum of twelve (12) events per year will be allowed; NO amplified music or alcoholic beverages will be allowed. All special events/exclusive use programs must be pre-approved and permitted through the Central Reservations Operation located at Kenneth Hahn State Recreation Area.

Fee Waiver Process: The County of Los Angeles Department of Parks and Recreation is not allowed to waive use fees; all fees are under the approval and control of the Los Angeles County Board of Supervisors.

Emergency Procedures: Contact procedures will include coordinating efforts between the Los Angeles County Sheriffs, Los Angeles County Fire Department, Los Angeles County Animal Control, Los Angeles County Department of Public Health, State Fish and Wildlife, Culver City and all other reporting agencies. The County of Los Angeles Department of Parks and Recreation will be responsible for filing and tracking all accident, incident, and burglary reports.

Signage: Hours of operation signs along with other departmental regulatory signage will be posted throughout the facility, including the use of the "Grade Your Park" web-site program. No signage will be utilized offsite to direct visitors to the location.

Community Outreach: A community advisory committee will be established with stakeholders to review and resolve traffic, parking, programming, and/or any problems or impacts on the surrounding community due to the operation of the Stoneview facility. The committee will include representatives from the Blair Hills Homeowners Association, Culver City, and County Parks. Community meetings will be held quarterly. The Los Angeles County Sheriff will have the responsibility of patrolling the nature center facility on a daily basis and enforcing all laws and Los Angeles County policies and codes.

Green Practices: The nature center facility will practice and encourage recycling plus water and energy conservation. The operation of the facility will be committed to sustainable practices and healthy living.

Volunteer Programs: The staff assigned to the center will develop a volunteer program designed to assist with providing quality programs and excellent customer service to the public.

Projected Number of Visitors: The projected number of visitors is shown in **Table 2.4-1** below.

Table 2.4-1
PROJECTED NUMBER OF DAILY VISITORS

Day	Hours	Number of Visitors
Saturday	8:00 a.m. – 5:00 p.m.	225
Sunday	8:00 a.m. – 5:00 p.m.	275
Monday	8:00 a.m. – 5:00 p.m.	125
Tuesday	8:00 a.m. – 5:00 p.m.	100
Wednesday	8:00 a.m. – 5:00 p.m.	100
Thursday	8:00 a.m. – 5:00 p.m.	100
Friday	8:00 a.m. – 5:00 p.m.	125
Total weekly number of visitors:		1,050

(Source: Los Angeles County Department of Parks and Recreation)

The above attendance projections are based on 2012 attendance figures from three Los Angeles County Natural Area Parks. The Stoneview Nature Center Project is most comparable to existing units at San Dimas, Whittier Narrows Natural Area, and Deane Dana Friendship Park. The projected use includes visitors who might seek access to the adjacent Park to Playa trails because these comparable nature centers are in parks with trails that are within the park or adjacent to it. The number of daily visitors is based on projected use patterns that have historically existed in these similar units. The daily figures are averages that will fluctuate on a seasonal basis. The onsite parking availability is based on 61 existing parking spaces with a visitor turnover rate of three times per day. Four parking spaces would be used by Stoneview Nature Center staff. Each visitor vehicle accessing the park is presumed to be carrying two visitors. Based on this information, the proposed onsite 61 parking spaces could accommodate a maximum of 342 visitors per day. Comparable attendance data for existing units at San Dimas, Whittier Narrows Natural Area, and Deane Dana Friendship Park are provided in **Appendix A**.

2.5 Construction

The hours of construction will be limited to the hours permitted by the City of Culver City Municipal Code. According to § 9.07.035 of the Code, construction activity shall be prohibited, except between the hours of:

- 8:00 a.m. and 8:00 p.m. Mondays through Fridays.
- 9:00 a.m. and 7:00 p.m. Saturdays.
- 10:00 a.m. and 7:00 p.m. Sundays.

The construction activities will be completed in two phases: demolition and make-ready, and construction of the new Nature Center.

Demolition: The demolition and make-ready phase will consist of the demolition of the existing one-story buildings, concrete and asphalt paving; site amenities such as fences and gates; non-native trees; and existing utilities. The Dabney Lloyd No. 3 oil-well located under the existing multi-purpose room building will be re-abandoned to comply with the requirements of the State Division of Oil, Gas, and Geothermal Resources. Following the demolition of all the structures and the clean-up of the site, some minor grading of the site will take place. The demolition and make-ready package is expected to start in Spring 2014 and last for two to three months. The debris generated from the demolition will be reused or recycled to the maximum extent feasible. During demolition,
Construction: The construction phase consists of the construction of the new 4,000-square-foot
the debris will be removed from the site between 9:00 am and 4:00 pm Monday through Friday.

Stoneview Nature Center Building, the parking lot, landscaping, and associated utilities and amenities. Due to the current building code requirements associated with seismic faults, the only area suited for the new Stoneview Nature Center Building is on the northeastern portion of the site. This area contains uncertified fill materials approximately 23 feet deep. The geotechnical report prepared for this study indicates that this area of the site is buildable. The proposed Stoneview Nature Center Building will be supported by a structural floor slab supported by deep foundations that consist of either driven precast concrete piles or drilled cast-in-place piles that extend into the natural soils. Alternatively, the proposed Stoneview Nature Center Building may be supported on mat foundations. Additional geotechnical studies will be performed to determine the most appropriate foundation support system and to ensure buildability per current code prior to finalization of plans. All plans will be submitted to jurisdictional agencies for review and approval prior to construction. The construction activities are expected to start by early of 2015 and last up to 13 to 15 months.

During both demolition and construction, the existing high pressure gasoline line traversing the site will be protected per Chevron Pipeline Company protocols. Throughout the duration of the demolition and construction of the project, the following Best Management Practices (BMPs) will be implemented and maintained:

- Inactive areas, finished slopes, open space, trench backfill, and completed area, and portions thereof, will be stabilized.
- Stockpiles, and portions thereof, that are not actively being used will be covered and bermed.

- Erosion control BMPs (runoff control and soil stabilization) will be implemented in conjunction with sediment control BMPs for areas under active construction. Active areas of construction are areas undergoing soil surface disturbance.

- Linear Sediment controls will be placed along the toe and face of disturbed slopes, and at grade breaks of exposed soil.

- Each entrance to, and exit from, the Project site will be stabilized in accordance to BMPs. Traffic entering/exiting the project site will be directed so as to only use such stabilized entrances/exits.

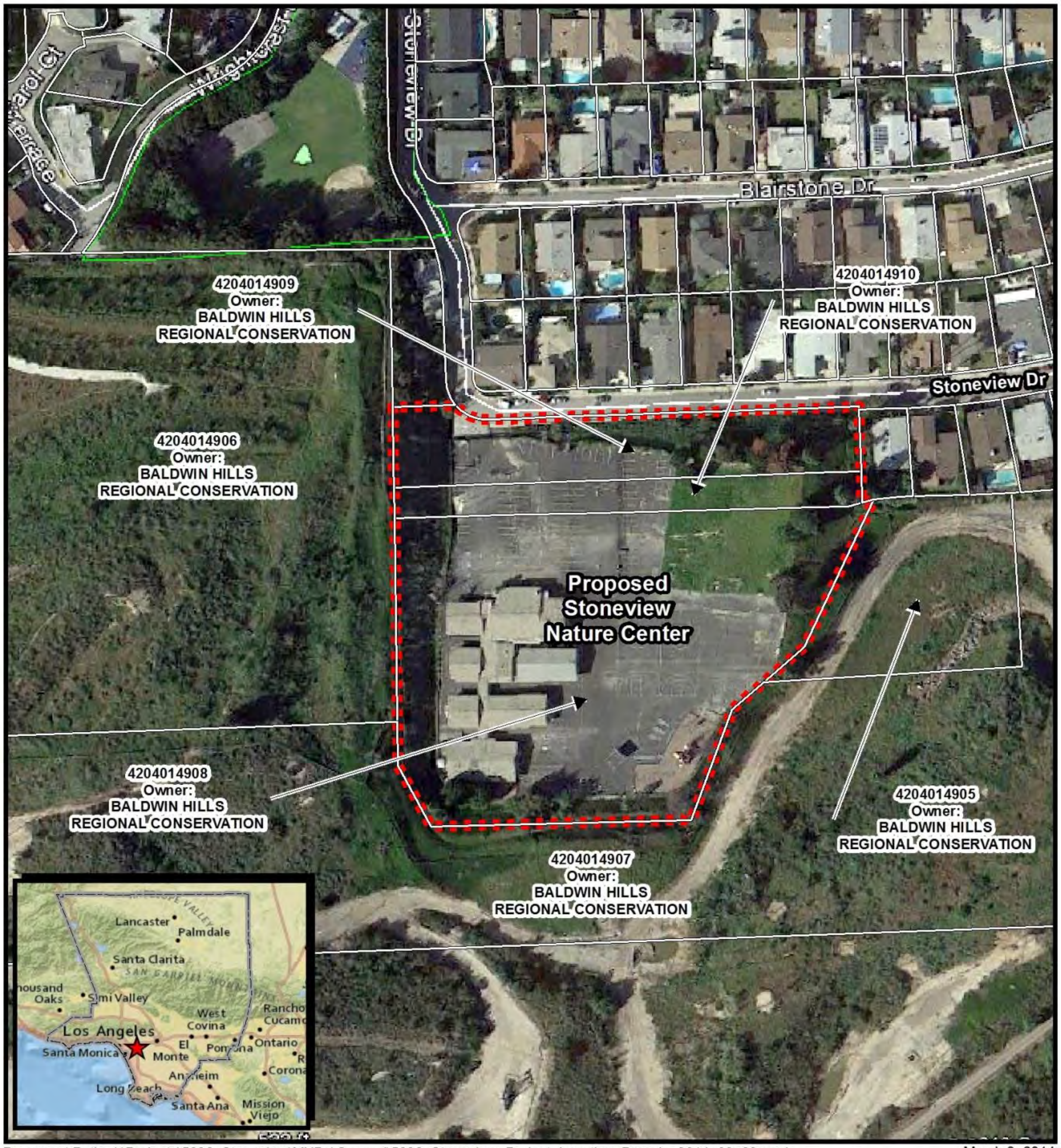
- A minimum of three spill response cleanup kits in accordance to SWPPP will be available at the site.

- Spills and leaks will be cleaned up immediately and disposed of off the work site.

- Concrete waste will be contained in a concrete washout container. There will be no discharge of concrete washout or waste into the underlying soil.

The proposed Stoneview Nature Center will comply with the Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges with the County of Los Angeles and the National Pollutant Discharge Elimination System (NPDES). The proposed Stoneview Nature Center project will also develop and implement a Storm Water Pollution Prevention Plan (SWPPP).

Figure 2.1-1
SITE LOCATION MAP



Document Path: J:\Projects\5892_Stoneview\MXDs\General\5892_Stoneview_Project_Location_Parcels_2014_03_03.mxd
Service Layer Credits: National Geographic, Esri, DeLorme, NAVTEQ, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, iPC; Google Earth, 2013; Los Angeles County, 2012-2013; UltraSystems Environmental, Inc., 2013

March 3, 2014

Scale 1:1

N

0 75 150 Feet

0 25 50 Meters

Legend

Project Location

Project Boundary

Los Angeles County Boundary

Assessor Parcel Boundary

Stoneview Nature Center

Project Location

UltraSystems environmental management planning

Figure 2.3-1
CONCEPTUAL SITE PLAN

Figure 2.3-2
RENDERING OF NATURE CENTER BUILDING

Figure 2.3-3
ELEVATION OF NATURE CENTER BUILDING

STONEVIEW PARK
MULTI-USE FACILITY ATKINS

3.0 ENVIRONMENTAL SETTING & BASELINE CONDITIONS

3.1 Environmental Setting

The project site is approximately 240 feet above mean sea level within the Baldwin Hills. Topography declines to the northeast, east and southeast.

Baldwin Hills

The Baldwin Hills occupy over two square miles (1,400 acres) in southwest Los Angeles County, and are part of an intricate ecological system and a complex human environment. The Baldwin Hills are most similar to the Westchester Bluffs, El Segundo Dunes and Palos Verdes Peninsula to the west and south, and share a number of characteristics with the Santa Monica Mountains to the north. Despite urbanization, roads, and oil development in the area, many of the Baldwin Hills' native plants and wildlife still remain, and the complex cycles of plants, insects, birds, reptiles, amphibians and mammals continue.

Baldwin Hills Park Master Plan

The Baldwin Hills Park Master Plan serves as a guide for future natural open space and parkland acquisition and improvements, facility development and habitat restoration within the Baldwin Hills, and connections to trails, parks and other public facilities (CCI, 2002).

Inglewood Oil Field

The proposed project site is within the Mineral Rights Boundary of the 1,000-acre Inglewood Oil Field.[4] The Inglewood Oil field includes approximately 430 active wells, 215 inactive or shut-in wells, and 530 abandoned wells along the northwest-southeast trending Inglewood anticline in Baldwin Hills. Well drilling in the Inglewood Oil Field began in 1924, and oil and gas exploration, drilling, production, processing and associated activities continue today.

Freeport-McMoRan Oil & Gas (FM O&G), the Operator of the oil field, estimates that approximately 50 percent of oil and gas reserves are recoverable using current technology, and anticipates that oil and gas drilling and production will continue in the future. Currently, Culver City is in the process of preparing an ordinance addressing oil and gas operations. Culver City has drafted regulations for "Oil and Gas Drilling for the Culver City Portion of the Inglewood Oil Field." If adopted by the Culver City Council, oil and gas drilling would not be permitted with 400 feet of developed areas except at the discretion and approval of the Culver City Community Development Director if it can be determined that the reduction in the 400-foot setback will not be detrimental to public health, safety or general welfare.[5] However, this restriction would not preclude "Directional Drilling" from areas beyond this setback to retrieve Mineral Resources within this zone. FM O&G has indicated that they plan to resume oil and gas exploration, production, processing and associated activities within the boundaries of the Inglewood Oil Field in Culver City after the relevant ordinances are adopted (FM O&G, 2013).

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4 http://culvercity.org/inglewoodoilfield/Maps.aspx. Accessed November 29, 2013

5 https://www.culvercity.org/en/inglewoodoilfield/DiscussionDraft.aspx. Accessed March 24, 2014

Kenneth Hahn State Recreation Area

The 308-acre Kenneth Hahn State Recreation Area was established in 1984. Kenneth Hahn State Recreation Area is managed by the County Department of Parks and Recreation, and is one of the largest urban parks and regional open spaces in the greater Los Angeles area. The Kenneth Hahn State Recreation Area includes large areas of native coastal sage scrub habitat, lawns and landscaped areas, picnic sites, a fishing lake, lotus pond, community center and five miles of trails. The trails are one of the most actively used features. The Burke Roche Trail and the Rim Trail are the most recent trails created.

3.2 Baseline Conditions

The project site currently includes approximately 15,000 square feet of single story masonry buildings, concrete and asphalt paving, existing utilities, fences and gates, and ornamental trees and shrubs. The site was used as a school facility since construction in 1956, and had been occupied by the Ohr Eliyahu Academy from 1995 to 2010, when the site was vacated. The project site is currently (2013) vacant, and this condition is used as the baseline condition for environmental analyses.

Aesthetics

The Blair Hills Single-family residential community is north, natural landscape is west, and the active, Inglewood Oil Field is south and east of the project site. There are no existing sources of lighting within the project site. Other than street lighting in the Blair Hills community, sources of lighting in the vicinity of the project site may include lighting required to conduct oil and gas exploration, production, processing and associated activities.

The Baldwin Hills Scenic Outlook within the Kenneth Hahn State Recreation Area provides visitors with panoramic views of the entire Los Angeles Basin, the Pacific Ocean and surrounding mountains. The scenic outlook is 511 feet above mean sea level approximately 0.3 mile west of the project site. One goal of the Kenneth Hahn State Recreation Area General Plan is to protect scenic features from man-made intrusions and preserve the visitor's experience of the natural landscape.[6]

Agriculture and Forestry Resources

The project site is not located within prime farmland, unique farmland, or farmland of statewide importance, as indicated by the State of California Department of Conservation Farmland Mapping & Monitoring Plan. The project site is not part of a Williamson Act contract, nor is located within a forest, as indicated by the California Department of Forestry and Fire Protection.

Air Quality

The project site is within the South Coast Air Basin (SCAB). The South Coast Air Quality Management District (SCAQMD) divided the SCAB into source receptor areas (SRAs) based on similar meteorological and topographical features. The proposed project site is located in SCAQMD Northwest Coastal Los Angeles County SRA 2. Air quality is monitored by the West Los Angeles – Veterans Administration Hospital Monitoring Station, located five miles northwest of the proposed project site at 11301 Wilshire Boulevard #6005, Los Angeles, CA 90073. There are currently no sources of air pollutants within the project site.

6 http://www.parks.ca.gov/?page_id=21767. Accessed November 2013

Biological Resources

The Baldwin Hills was once dominated by coastal sage scrub habitat, and contain remnants of riparian (streamside) and grassland habitats that once made up much of the surrounding area. Coastal sage scrub is unique to Southern and Central California, and the Baldwin Hills are home to hundreds of native plant and wildlife species. Over a century of agriculture and urbanization has fragmented the former habitat of the region, and the Baldwin Hills are now surrounded by the intensively developed and densely populated cities of Los Angeles, Culver City and Inglewood.

The pallid bat and western mastiff bat may occur in the Baldwin Hills area. Populations of these species are highly localized and require active management to prevent the species from becoming endangered or threatened. Although the project site is mostly paved with asphalt and concrete, current ornamental vegetation may provide limited habitat for wildlife.

Cultural Resources

There are no known cultural resources within or Native American sacred lands near the project site, and the site contains approximately 17 to 23 feet of non-compacted fill material. For this reason, there is little likelihood that excavations would disturb or uncover cultural resources or burials.

Geology and Soils

The project site is within an Alquist-Priolo Earthquake Fault Zone associated with the Newport-Inglewood Fault system. The City of Culver City's Liquefaction and Landslide Map indicates that an isolated area in the northwestern corner of the project site is within a landslide hazard zone. The steep cut slopes along the western portion of the site are located in an area identified as having a potential for seismic slope instability by the California Division of Mines and Geology. Approximately 58 percent of the project site is covered with existing buildings or asphalt, and the remainder is natural vegetation or exposed soil.

Greenhouse Gas Emissions

The project site is within SCAQMD jurisdiction. In October, 2008, the SCAQMD issued a *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*. The SCAQMD Board approved the document at a December 5, 2008 meeting. SCAQMD Interim Thresholds are used for analysis of Greenhouse gas (GHG) emissions for this IS/MND because Culver City and the County have not yet adopted a quantitative threshold of significance for GHGs.

The California Air Resource Board (CARB) developed a statewide GHG inventory to keep track of the 2020 target of reaching 1990 levels of CO_2 (Assembly Bill 32). The latest report covers 2000 through 2009. Neither the City of Culver City nor the County has adopted a GHG inventory or Climate Action Plan. There are currently no sources of GHG emissions within the project site. See Chapter 4.7 for a detailed discussion.

Hazards and Hazardous Materials

An abandoned oil well (Chevron USA Inc., "Dabney Lloyd" No. 3) is located under the existing multi-purpose room building within the project site. This well will be re-abandoned by the operator, Chevron USA, Inc., after demolition of the existing buildings. An active underground high pressure six-inch diameter gasoline pipeline operated by the Chevron Pipeline Company (CPL) traverses the property in a north-south direction. According to CPL, the pipeline is buried approximately two feet beneath the ground surface.[7] This pipeline would be avoided during construction, and remain unaffected by the Stoneview Nature Center.

Hydrology and Water Quality

The Baldwin Hills are drained by Ballona and Centinela Creeks. Ballona Creek is approximately 0.75 mile west of, and is the nearest drainage to, the project site. It is an 8.8-mile lined channel that flows through the cities of Los Angeles and Culver City, and includes 4.5 miles of developed bicycle trail from National Boulevard to the Ballona Wetlands, where the creek flows into Santa Monica Bay. The Vista Pacifica Scenic Site is adjacent to Ballona Creek and the associated Ballona Creek Trail. There are no streams or rivers within the project site.

The former Baldwin Reservoir was approximately 0.75 mile southwest of the project site. This reservoir experienced a dam failure in 1963. The failure has been attributed to a variety of causes, including oil-field subsidence (Yerkes and Castle, 1969), tectonic faulting (Hudson and Scott, 1965), water injection in the nearby oil field (Hamilton and Meehan, 1971), and construction related factors (Wright, 1987). This dam failure caused several million dollars of property damage. According to a database search by Environmental Data Resources, Inc. (EDR), the project site is not within a Federal Emergency Management Agency (FEMA) 100-year floodplain.

The Baldwin Hills are considered a barrier to groundwater flow, and do not contain sufficient quantities of groundwater for public use. One former water supply well (#1506), owned by the City of Beverly Hills, is located approximately 0.25 to 0.5 mile west-northwest of the project site. Other wells used for environmental monitoring may be present within one mile of the project site at locations where releases of hazardous wastes were reported. Groundwater was encountered beneath the project site approximately 72 to 78 feet below the ground surface in 2010. Perched and/or artesian water groundwater conditions could exist at the site due to the presence of local faults.

Land Use and Planning

The project site will be owned by the County, and is within the area mapped by the Culver City General Plan. The Culver City Planning Division has found that the project conforms to the Culver City 2000 General Plan Land Use Element, and the 1996 Open Space Element pursuant to the County and City consultation process of California Government Code § 65402 (City of Culver City, 2013). The northern portion of the property is designated Low Density Single Family, and the southern portion is designated Open Space. The entire project site is zoned R1 Residential Single Family.

Mineral Resources

Approximately 100 acres of the 1,000-acre Inglewood Oil Field is within Culver City. The Stoneview Nature Center is within the Mineral Rights Boundary, and within the Field Boundary delineated by the California Department of Conservation, Division of Oil, Gas & Geothermal Resources. Culver City has drafted regulations for "Oil and Gas Drilling for the Culver City Portion of the Inglewood Oil Field." If adopted by the Culver City Council, oil and gas drilling would not be permitted with 400

[7] Al Super, Conflict Inquiry Specialist, California Asset Management, Chevron Pipe Line Company, 714-228-1506, alsuper@chevron.com.

feet of developed areas except at the discretion and approval of the Culver City Community Development Director if it can be determined that the reduction in the 400-foot setback will not be detrimental to public health, safety or general welfare.[8] The Culver City General Plan does not indicate other locally-important mineral resources within 500 feet of the project site.

Noise

The primary regulatory documents that establish noise standards within Culver City are the Culver City Municipal Code, and the Noise Element of the Culver City General Plan. There are currently no sources of noise generated at the project site. Other sources of noise in the vicinity of the project site include traffic on neighborhood streets and off-site activity required to conduct oil and gas exploration, production, processing and associated activities.

Population and Housing

North of the project site is characterized as a typical single-family residential neighborhood. There are no housing units and no residents located within the project site.

Public Services

The project site is served by the City of Culver City Fire Department and the Los Angeles County Sheriff.

Recreation

The previous school included an approximately 1,500-square-foot grass area and another approximately 1,500-square-foot paved area that were used for recreation purposes. These areas are currently not used for recreation because the project site is vacant.

Transportation and Traffic

Currently, the project site is vacant and generates no traffic. The former school's onsite parking is fenced and not available for use.

Utilities and Service Systems

The project site is connected to existing utilities, including water, sewer, gas, and electricity, and is served by the Puente Hills Landfill in the City of Whittier and the Southeast Resource Recovery Facility in Long Beach.

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8 http://www.culvercity.org/~/media/Files/InglewoodOilField/Discussion%20Draft%20Oil%20Drilling%20Regulations_04-09-13.ashx. (Section 21.J.1). Accessed November 30, 2013

4.0 ENVIRONMENTAL CHECKLIST FORM

Project title:	Stoneview Nature Center
Lead agency name and address:	Los Angeles County 900 South Fremont Avenue, 5th Floor Alhambra, CA 91802-1460
Contact person and phone number:	Alioune Dioum, P.E. (626) 300-3273
Project sponsor's name and address:	County of Los Angeles 900 South Fremont Avenue, 5th Floor Alhambra, CA 91802-1460
Acres	Five
Project location:	5950 Stoneview Drive Culver City, CA 90232
Zoning:	The northern portion of the property is designated Low Density Single Family (R1), and the southern portion is designated Open Space

Other public agencies whose approval is required:

Public Agency	**Approval Required**
State Water Resources Control Board (SWRCB)	General NPDES Permit
State of California Department of Real Estate	Title transfer

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Geology/Soils
☒ Hazards/Hazardous Materials	☐ Hydrology/Water Quality	☐ Land Use/Planning
☐ Mineral Resources	☒ Noise	☐ Population/Housing
☐ Public Services	☐ Recreation	☒ Transportation/Traffic
☐ Utilities/Service Systems	☐ Mandatory Findings of Significance	

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

______________________________ ________________________
Signature Date

Alioune Dioum, P.E., Project Manager
Printed Name and Title

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
4.1 Aesthetics				
Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Impact Analysis

a) Less than Significant Impact.

Currently, the site is occupied by vacant masonry buildings and an asphalt surface originally constructed in the 1950s. These structures and asphalt would be removed and replaced with native trees, shrubs and grasses. The proposed project would not obstruct or impact current scenic or other views from the property. For these reasons, the project would result in a less than significant effect on a scenic vista.

b) No Impact.

The project site is not located within a state scenic highway, as designated by the California Department of Transportation Scenic Highway Program; therefore, the proposed project would not substantially damage scenic resources, including trees, rock outcrops, and historical buildings within a state scenic highway.

c) Less than Significant Impact.

Currently, the site is occupied by approximately 15,000 square feet of vacant masonry buildings and an asphalt surface originally constructed in the 1950s. These structures, asphalt, and landscaping, including non-native trees, would be removed and replaced with native trees, shrubs and grasses, and the single smaller building of the Stoneview Nature Center and new parking lot. The proposed project is visually consistent and provides a seamless transition with nearby residences. Implementation of the project would enhance the visual quality of the project site. For these reasons, the project would result in a less than significant effect on the existing visual character or quality of the site and its surroundings.

d) Less than Significant Impact.

The proposed project would introduce new lighting sources through the inclusion of ceiling-to-floor glass windows and doors and building and security lighting. It is not anticipated that these features would create significant glare since the glass windows and doors would be treated with anti-reflective coating and building and security lighting would be shielded and directed downward. When the center is closed, only security lighting would be used. Therefore, the proposed project would not create substantial light or glare and would result in a less than significant impact on day and nighttime views.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
4.2 Agriculture and Forestry Resources				
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Impact Analysis

a) No Impact.

See discussion below.

b) No Impact.

The project site is not located within prime farmland, unique farmland, or farmland of statewide importance, as indicated by the State of California Department of Conservation Farmland Mapping & Monitoring Plan. The project site is zoned R1 Residential Single Family and is not part of a Williamson Act contract. Williamson Act contracts are contracts with counties and cities to restrict land use to agricultural and compatible open space uses to discourage conversion to urban uses. Due to the zoning of the proposed project area, it is evident that the city is not restricting this land for agricultural purposes, so no conflict with a Williamson Act contract would occur. The proposed project would not conflict with existing zoning for agricultural use, nor would not convert farmland to non-agricultural use. For these reasons no impacts would occur.

c) No Impact.

The project site is zoned R1 Residential Single Family by the city and is not zoned forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).

d) No Impact.

The project is located within an urbanized area, and not located within a forest, as indicated by the California Department of Forestry and Fire Protection. For these reasons, the project would not result in the loss of forest land or conversion of forest land to non-forest use.

e) No Impact.

As indicated above, the project site is located within an urbanized area, and is not located within a forest or an area designated for agricultural use. For these reasons, the project would have no potential to result in a conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.

4.3 Air Quality

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion

<u>Pollutants of Concern – Criteria Pollutants</u>

The criteria air pollutants of concern are nitrogen dioxide (NO_2), carbon monoxide, particulate matter, sulfur dioxide, lead, and ozone, and their precursors. Criteria pollutants are air pollutants for which acceptable levels of exposure can be determined and an ambient air quality standard has been established by the U.S. Environmental Protection Agency (USEPA) and/or the California Air Resources Board (CARB). Since the proposed project would not generate appreciable sulfur dioxide (SO_2) or lead (Pb) emissions,[9] it is not necessary for the analysis to include those two pollutants. Presented below is a description of the air pollutants of concern and their known health effects.

Nitrogen oxides (NO_x) serve as integral participants in the process of photochemical smog production, and are precursors for certain particulate compounds that are formed in the atmosphere. The two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO_2). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown pungent gas formed by the combination of NO and oxygen. NO_2 acts as an acute respiratory irritant and eye irritant, and

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9 At worst case sulfur dioxide emissions will be approximately 0.08 pound per day.

increases susceptibility to respiratory pathogens. A third form of NO_x, nitrous oxide (N_2O), is a greenhouse gas (GHG).

Carbon monoxide (CO) is a colorless, odorless non-reactive pollutant produced by incomplete combustion of carbon substances (e.g., gasoline or diesel fuel). The primary adverse health effect associated with CO is its binding with hemoglobin in red blood cells, which decreases the ability of these cells to transport oxygen throughout the body. Prolonged exposure can cause headaches, drowsiness, or loss of equilibrium; high concentrations are lethal.

Particulate matter (PM) consists of finely divided solids or liquids, such as soot, dust, aerosols, fumes and mists. Two forms of fine particulate matter are now regulated. Respirable particles, or PM_{10}, include that portion of the particulate matter with an aerodynamic diameter of 10 micrometers (i.e., 10 one-millionths of a meter or 0.0004 inch) or less. Fine particles, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 micrometers (i.e., 2.5 one-millionths of a meter or 0.0001 inch) or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind action on the arid landscape also contributes substantially to the local particulate loading. Fossil fuel combustion accounts for a significant portion of $PM_{2.5}$. In addition, particulate matter forms in the atmosphere through reactions of NO_x and other compounds (such as ammonia) to form inorganic nitrates. Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems.

Reactive organic gases (ROG) are compounds comprised primarily of atoms of hydrogen and carbon that have high photochemical reactivity. The major source of ROG is the incomplete combustion of fossil fuels in internal combustion engines. Other sources of ROG include the evaporative emissions associated with the use of paints and solvents, the application of asphalt paving and the use of household consumer products. Adverse effects on human health are not caused directly by ROG, but rather by reactions of ROG to form secondary pollutants. ROG are also transformed into organic aerosols in the atmosphere, contributing to higher levels of fine particulate matter and lower visibility. The term "ROG" is used by the CARB for air quality analysis and is defined the same as the federal term "volatile organic compound" (VOC).

Ozone (O_3) is a secondary pollutant produced through a series of photochemical reactions involving ROG and NO_x. O_3 creation requires ROG and NO_x to be available for approximately three hours in a stable atmosphere with strong sunlight. Because of the long reaction time, peak ozone concentrations frequently occur downwind of the sites where the precursor pollutants are emitted. Thus, O_3 is considered a regional, rather than a local, pollutant. The health effects of O_3 include eye and respiratory irritation, reduction of resistance to lung infection and possible aggravation of pulmonary conditions in persons with lung disease. O_3 is also damaging to vegetation and untreated rubber.

Meteorology and Climate

Air quality is affected by both the rate and location of pollutant emissions, and by meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and air quality.

The South Coast Air Basin (SCAB) is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest and high mountains around its remaining perimeter.

The general region lies in the semi-permanent high pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.

The vertical dispersion of air pollutants in the SCAB is hampered by the presence of persistent temperature inversions. An upper layer of dry air that warms as it descends characterizes high-pressure systems, such as the semi-permanent high-pressure zone in which the SCAB is located. This upper layer restricts the mobility of cooler marine-influenced air near the ground surface and results in the formation of subsidence inversions. Such inversions restrict the vertical dispersion of air pollutants released into the marine layer and, together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog.

The atmospheric pollution potential of an area is largely dependent on winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 mph, smog potential is greatly reduced (SCAQMD, 1993).

The annual average temperature, as recorded at Culver City (2.3 miles southwest of the proposed project site at 34.00472° N, 118.415° W), is 63 degrees Fahrenheit (°F) with an average winter (December, January, and February) temperature of approximately 57°F and an average summer (June, July, and August) temperature of approximately 69°F. The average maximum recorded temperatures are 77°F during the summer and 67°F during the winter. The annual average of total precipitation in the proposed project area is approximately 13.2 inches, which occurs mostly during the winter and relatively infrequently during the summer. Precipitation averages approximately 8.1 inches during the winter, approximately 3.1 inches during the spring (March, April, and May), approximately 1.9 inches during the fall (September, October, and November), and approximately 0.1 inch during the summer (Western Regional Climate Center, 2013). Winds in the SCAB are generally light, tempered by afternoon sea breezes. Severe weather is uncommon in the Basin, but strong easterly winds known as the Santa Ana winds can reach 25 to 35 miles per hour below the passes and canyons. During the spring and summer months, air pollution is carried out of the region through mountain passes in wind currents or is lifted by the warm vertical currents produced by the heating of the mountain slopes. From the late summer through the winter months, because of the average lower wind speeds and temperatures in the proposed project area and its vicinity, air contaminants do not readily disperse, thus trapping air pollution in the area.

Regional Air Quality

Table 4.3-1: Federal and State Attainment Status shows the area designation status of the SCAB for each criteria pollutant for both the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). Based on regional monitoring data, the SCAB is currently designated as a non-attainment area for O_3, PM_{10} and $PM_{2.5}$; a federal maintenance area for CO and NO_2; and an attainment area for SO_2.[10] Designation of the SCAB as a maintenance area means that, although the SCAB has achieved compliance with the NAAQS for CO and NO_2, control strategies that were used to achieve compliance must continue. The Federal ozone classification is "extreme" (U.S.

[10] According to the SCAQMD, the "Basin has met the PM10 standards at all stations and a request for re-designation to attainment is pending with U.S. EPA." (SCAQMD Board Meeting, December 7, 2012, Agenda Item 30, p. 6.)

EPA, 2012). An extreme non-attainment area has an 8-hour ozone design value of 0.187 ppm (U.S. EPA, 2011), and has the attainment deadline of June 15, 2024.

Table 4.3-1
FEDERAL AND STATE ATTAINMENT STATUS

Pollutants	Federal Classification	State Classification
Ozone (O_3)	Non-Attainment (Extreme)	Non-Attainment
Particulate Matter (PM_{10})	Non-Attainment (Serious)[11]	Non-Attainment
Fine Particulate Matter ($PM_{2.5}$)	Non-Attainment	Non-Attainment
Carbon Monoxide (CO)	Maintenance	Attainment
Nitrogen Dioxide (NO_2)	Maintenance	Non-Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment

Sources:
U.S. Environmental Protection Agency, "California 8-Hour Ozone Nonattainment Areas in Blue Borders." Green Book. [www.epa.gov/air/oaqps/greenbook/ca8.html]. Updated December 14, 2012;
U.S. Environmental Protection Agency, "Counties Designated Nonattainment for PM-10." Green Book. [http://www.epa.gov/air/oaqps/greenbook/map/mappm10.pdf]. Accessed April 24, 2013;
California Air Resources Board, "Area Designations Maps/State and National." [www.arb.ca.gov/desig/adm/adm.htm]. Accessed April 24, 2013.

Local Air Quality

The South Coast Air Quality Management District (SCAQMD) has divided the SCAB into source receptor areas (SRAs), based on similar meteorological and topographical features. The proposed project site is located in SCAQMD's Northwest Coastal LA County SRA 2, which is served by the West Los Angeles – VA Hospital Monitoring Station, located 5 miles northwest of the proposed project site at 11301 Wilshire Boulevard #6005, Los Angeles, CA 90073. Criteria pollutants monitored at the West Los Angeles – VA Hospital Monitoring Station include O_3, NO_2, and CO. This station does not monitor PM_{10}, $PM_{2.5}$, or CO. The nearest, most representative monitoring station that gathers PM_{10} and $PM_{2.5}$ data is located approximately 9.3 miles northeast of the proposed project site at 1630 N. Main Street, Los Angeles, CA 90012 (North Main Street Monitoring Station). The nearest, most representative monitoring station that gathers SO_2 data is located approximately 4.8 miles southwest of the proposed project site at 7201 W. Westchester Parkway, Los Angeles, CA 90045 (Los Angeles – Westchester Pkwy). The ambient air quality data in the proposed project vicinity as recorded at the West Los Angeles – VA Hospital, North Main Street, Reseda, and Los Angeles – Westchester Pkwy Monitoring Stations from 2009 to 2011 and the applicable state standards are shown in **Table 4.3-2**: Ambient Air Quality Monitoring Data.

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11 On April 8, 2013, the U.S. Environmental Protection Agency proposed changing the PM_{10} attainment status to "Attainment" (78 Federal Register 20868-20881).

Table 4.3-2
AMBIENT AIR QUALITY MONITORING DATA

Air Pollutant	Standard/Exceedance	2009	2010	2011
Carbon Monoxide (CO)	Year Coverage	96%	99%	95%
	Max. 1-hour Concentration (ppm)	2	2	ND
	Max. 8-hour Concentration (ppm)	1.51	1.44	1.74
	# Days > Federal 1-hour Std. of 35 ppm	0	0	0
	# Days > Federal 8-hour Std. of 9 ppm	0	0	0
	# Days > California 8-hour Std. of 9.0 ppm	0	0	0
Ozone (O_3)	Year Coverage	99%	96%	92%
	Max. 1-hour Concentration (ppm)	0.131	0.099	0.098
	Max. 8-hour Concentration (ppm)	0.095	0.079	0.069
	# Days > Federal 8-hour Std. of 0.075 ppm	3	1	0
	# Days > California 1-hour Std. of 0.09 ppm	6	2	2
	# Days > California 8-hour Std. of 0.07 ppm	5	3	0
Nitrogen Dioxide (NO_2)	Year Coverage	93%	97%	96%
	Max. 1-hour Concentration (ppm)	0.077	0.071	0.081
	Annual Average (ppm)	0.017	0.016	0.016
	# Days > California 1-hour Std. of 0.18 ppm	0	0	0
Sulfur Dioxide (SO_2)[a]	Year Coverage	95%	88%	100%
	Max. 24-hour Concentration (ppm)	0.003	0.005	0.001
	Annual Average (ppm)	0.001	0.001	0.000
	# Days > California 24-hour Std. of 0.04 ppm	0	0	0
Respirable Particulate Matter (PM_{10})[b]	Year Coverage	99%	94%	97%
	Max. 24-hour Concentration (μg/m^3)	72.0	42.0	53.0
	#Days > Fed. 24-hour Std. of 150 μg/m^3	0.0	0.0	0.0
	#Days > California 24-hour Std. of 50 μg/m^3	24.1	ND	6.5
	Annual Average (μg/m^3)	33.1	27.1	29.0
Fine Particulate Matter ($PM_{2.5}$)[b]	Year Coverage	100%	100%	97%
	Max. 24-hour Concentration (μg/m^3)	61.6	48.6	69.2
	State Annual Average (μg/m^3)	15.6	12.6	13.3
	#Days > Fed. 24-hour Std. of 35 μg/m^3	7.0	5.0	8.1
	Federal Annual Average (μg/m^3)	14.4	12.6	13.5

Source:
California Air Resources Board, "iADAM Air Quality Data Statistics." Internet URL: http://www.arb.ca.gov/adam/ (April 23, 2013)
South Coast Air Quality Management District, "Historical Data by Year." Internet URL: http://www.aqmd.gov/smog/historicaldata.htm (April 23, 2013)
ND - There was insufficient (or no) data available to determine the value.
[a] The West Los Angeles – VA Hospital Monitoring Station does not test for SO2, therefore, the nearest station that tests for this pollutant is at Westchester Parkway (7201 W. Westchester Pkwy., Los Angeles, CA 90045).
[b] The West Los Angeles – VA Hospital Monitoring Station does not test for PM10 or PM2.5, therefore, the nearest station that tests for these pollutants is at Los Angeles – North Main Street (1630 N. Main St., Los Angeles, CA 90012).

Sensitive Receptors

Some people, such as individuals with respiratory illnesses or impaired lung function because of other illnesses, the elderly over 65 years of age, and children under 14, are particularly sensitive to certain pollutants. Facilities and structures where these sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses identified to be sensitive receptors by SCAQMD in the CEQA Handbook include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Sensitive receptors may be at risk of being affected by air emissions released from the construction and operation of the proposed project.

The proposed project would be located in Culver City, near several existing single-family residences. Exposure to potential emissions would vary substantially from day to day, depending on the amount of work being conducted, the weather conditions, the location of receptors, and the length of time that receptors would be exposed to air emissions. The construction phase emissions estimated in this analysis are based on conservative estimates and worst-case conditions, with maximum levels of construction activity occurring simultaneously within a short period of time. The nearest sensitive receptors to the proposed project site, with the highest potential to be impacted by the proposed project are listed below in **Table 4.3-3**: Sensitive Receptors Near Project Site.

Table 4.3-3
SENSITIVE RECEPTORS NEAR PROJECT SITE

Sensitive Receptor		Location	Distance from Proposed Project (Feet)
1	Single-Family Residence	5924 Stoneview Drive	47
2	Single-Family Residence	5922 Stoneview Drive	63

Source: UltraSystems with Google Earth. 2013.

Air Quality Plans

The SCAQMD is required to produce plans to show how air quality will be improved in the region. The California Clean Air Act (CCAA) requires that these plans be updated triennially to incorporate the most recent available technical information.[12] A multi-level partnership of governmental agencies at the federal, state, regional, and local levels implements the programs contained in these plans. Agencies involved include the USEPA, CARB, local governments, Southern California Association of Governments (SCAG), and SCAQMD. The SCAQMD and the SCAG are responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the SCAB. The SCAQMD updates its AQMP every three years. The 2012 AQMP, which is the latest, was adopted by the SCAQMD Board on December 6, 2012 and submitted to the CARB and the USEPA for concurrent review on December 20, 2012 (Letter of Wallerstein, B., 2012). The plan identifies control measures needed to demonstrate attainment with the federal 24-hour standard for PM2.5 by 2014 in the South Coast Air Basin. In addition, the 2012 AQMP provides updates on progress towards meeting the 8-hour ozone standard for 2023, an attainment demonstration for the revoked 1-hour ozone standard, a vehicle miles traveled (VMT) offset demonstration for ozone standards, and a report on the health effects of $PM_{2.5}$.

12 CCAA of 1988.

On January 25, 2013 the CARB approved the South Coast 2012 AQMP as an amendment to the State Implementation Plan (CARB, 2013). The air quality technical report is provided in **Appendix B**.

Impact Analysis

a) Less Than Significant Impact.

The SCAQMD has established an AQMP that proposes policies and measures to achieve federal and state standards for healthful air quality in the SCAB. The most recently approved AQMP was adopted by the SCAQMD Board of Directors on December 7, 2012.

The AQMP incorporates land use assumptions from local general plans and regional growth projections developed by SCAG to estimate stationary and mobile air emissions associated with projected population and planned land uses. If the proposed land use is consistent with the local general plan, then the impact of the project is presumed to have been accounted for in the AQMP. This is because the land use and transportation control sections of the AQMP are based on the SCAG regional growth forecasts, which incorporated projections from local general plans.

Another measurement tool in determining consistency with the AQMP is to determine whether a project would generate population and employment growth and, if so, whether that growth would exceed the growth rates forecasted in the AQMP and how the project would accommodate the expected increase in population or employment.

The proposed project will not conflict with the land use designation specified in the Culver City General Plan. In addition, the proposed project is neither a source of new housing nor a significant source of new jobs; hence, the proposed project is not considered growth or population-inducing on a regional scale. Therefore, the proposed project will not conflict with or obstruct the implementation of the AQMP. The impact will be less than significant.

b) Less Than Significant Impact.

As required by the CAA and CCAA, NAAQS have been established for six major air pollutants. These pollutants, known as criteria pollutants, are: nitrogen dioxide (NO_2), carbon monoxide (CO), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), sulfur dioxide (SO_2), and lead (Pb). The State of California has also established ambient air quality standards, known as the California Ambient Air Quality Standards (CAAQS). These standards are generally more stringent than the corresponding federal standards and include additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles.

Both state and federal standards are summarized in **Table 4.3-4**, Ambient Air Quality Standards for Criteria Pollutants. The primary standards have been established to protect the public health. The secondary standards are intended to protect the nation's welfare and account for air pollutant effects on soil, water, visibility, materials, vegetation and other aspects of the general welfare.

Table 4.3-4
AMBIENT AIR QUALITY STANDARDS FOR CRITERIA AIR POLLUTANTS

Pollutant	Averaging Time	California Standards[a]		Federal Standards [b]		
		Concentration[c]	Method[d]	Primary[c,e]	Secondary [c,f]	Method[g]
Ozone (O_3)	1 Hour	0.09 ppm (180 μg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (137 μg/m^3)		0.075 ppm (147 μg/m^3)		
Respirable Particulate Matter (PM_{10})	24 Hour	50 μg/m^3	Gravimetric or Beta Attenuation	150 μg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 μg/m^3		—		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		35 μg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 μg/m^3	Gravimetric or Beta Attenuation	15 μg/m^3		
Carbon Monoxide (CO)	8 Hour	9 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)	Gas Phase Chemiluminescence	0.053 ppm (100 μg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 μg/m^3)		0.1 ppm (188 μg/m^3)	None	
Sulfur Dioxide (SO_2)	24 Hour	0.04 ppm (105 μg/m^3)	Ultraviolet Fluorescence	—	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 μg/m^3)	
	1 Hour[h]	0.25 ppm (655 μg/m^3)		0.075 ppm (196 μg/m^3)	—	
Lead[i]	30 Day Average	1.5 μg/m^3	Atomic Absorption	—	—	—
	Calendar Quarter	—		1.5 μg/m^3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average[j]	—		0.15 μg/m^3		
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer–visibility of 10 miles or more (0.07 – 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70%. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates	24 Hour	25 μg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 μg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[i]	24 Hour	0.01 ppm (26 μg/m^3)	Gas Chromatography			

Table 4.3-4 (Cont'd.)

a. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter–-PM_{10}, $PM_{2.5}$, and visibility reduction particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
b. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar with a 24-hour average concentration above 150 μg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.
c. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25^{o}C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25^{o}C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
d. Any equivalent procedure which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.
e. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
f. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
g. Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by USEPA.
h. On June 2, 2010, the USEPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The USEPA also revoked both the existing 24-hour SO_2 standard of 0.14 ppm and the annual primary SO_2 standard of 0.030 ppm, effective August 23, 2010.
i. The CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
j. National lead standard, rolling 3-month average: final rule signed October 15, 2008.

Source: California Air Resources Board, "Ambient Air Quality Standards." Internet URL: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. (June 7, 2012).

Significance Thresholds

The SCAQMD has developed criteria for determining whether emissions from a project are regionally significant. They are useful for estimating whether a project is likely to result in a violation of the NAAQS and/or whether the project is in conformity with plans to achieve attainment. The SCAQMD no longer has "indirect source" rules, e.g. rules that place restrictions on housing or commercial development, or require reductions in trip generation and/or vehicle miles traveled to developed commercial or industrial sites.[13] Instead, the District has published guidance on conducting air quality analyses under CEQA (SCAQMD, 1993). SCAQMD's significance thresholds are summarized in **Table 4.3-5**: SCAQMD Emissions Thresholds for Significant Regional Impacts for criteria pollutant emissions during construction activities and project operation. A project is considered to have a regional air quality impact if emissions from its construction and/or operational activities exceed the corresponding SCAQMD significance thresholds.

13 Two indirect source rules (1501 - Work Trip Reduction Plans and 1501.1 - Alternatives to Work Trip Reduction Plans) were repealed in 1995.

Table 4.3-5
SCAQMD EMISSIONS THRESHOLDS FOR SIGNIFICANT REGIONAL IMPACTS

Pollutant	Mass Daily Thresholds (Pounds/Day)	
	Construction	Operation
Nitrogen Oxides (NO_X)	100	55
Volatile Organic Compounds (VOC)	75	55
Respirable Particulate Matter (PM_{10})	150	150
Fine Particulate Matter ($PM_{2.5}$)	55	55
Sulfur Oxides (SO_X)	150	150
Carbon Monoxide (CO)	550	550
Lead	3	3

Source: "SCAQMD Air Quality Significance Thresholds." 2011. Diamond Bar, CA: South Coast Air Quality Management District, www.aqmd.gov/ceqa/handbook/signthres.pdf. March 2011. Accessed April 24, 2013.

Air Quality Methodology

Estimated criteria pollutants from the project's on-site and off-site project activities were calculated using the California Emissions Estimator Model (CalEEMod), Version 2013.2.1. CalEEMod is a planning tool for estimating emissions related to land use projects. The model incorporates EMFAC2007 emission factors to estimate on-road vehicle emissions; and emission factors and assumptions from the CARB's OFFROAD2007 model to estimate off-road construction equipment emissions (EIC, 2013). Model-predicted project emissions are compared with applicable thresholds to assess regional air quality impacts. Operational emissions are estimated using CalEEMod and take into account area emissions, such as space heating, from land uses and from the vehicle trips associated with the land uses.

Regional Short-Term Air Quality Effects

Project construction activities will generate short-term air quality impacts. Construction emissions can be distinguished as either on-site or off-site. On-site air pollutant emissions consist principally of exhaust emissions from off-road heavy-duty construction equipment, as well as fugitive particulate matter from earthwork and material handling operations. Off-site emissions result from workers commuting to and from the job site, as well as from trucks hauling materials to the site and construction debris for disposal.

The analysis focused upon the construction for the development of the proposed nature center. Project construction emissions were estimated using the construction module of CalEEMod. For the purpose of this analysis, it was estimated that the construction of the proposed project would begin in October 2014 and be completed by the end of November 2015 (Dioum, A., email correspondence, 2013). Operations would begin in January 2016. Estimates of the types and numbers of pieces of equipment anticipated in each phase of construction and development were based on equipment requirements of similar park construction projects, and CalEEMod defaults. Equipment exhaust emissions were determined using CalEEMod's default values for horsepower and load factors, which are from the CARB's OFFROAD2011 model. **Table 4.3-6**: Proposed Project: Maximum Daily Construction Emissions summarizes the results of the modeling.

Table 4.3-6
PROPOSED PROJECT: MAXIMUM DAILY CONSTRUCTION EMISSIONS

Construction Activity	Maximum Emissions (lbs/day)				
	ROG	**NO_x**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Maximum Cumulative Emissions (Unmitigated)	11.17	99.29	64.38	21.38	12.87
Maximum Cumulative Emissions (Mitigated)	11.17	99.29	64.38	8.84	6.78
Construction Activities	Site Preparation - 2014	Site Preparation - 2014	Site Preparation - 2014	Site Preparation - 2014	Site Preparation - 2014
SCAQMD Significance Thresholds	*75*	*100*	*550*	*150*	*55*
Significant - Unmitigated	**No**	**No**	**No**	**No**	**No**
Significant - Mitigated	**No**	**No**	**No**	**No**	**No**

Source: Calculated by UltraSystems with CalEEMod (Version 2013.2.1).

Both unmitigated and mitigated daily emissions for all the criteria pollutants are less than their respective SCAQMD significance thresholds.

Regional Long-Term Air Quality Effects

The primary source of operational emissions would be vehicle exhaust emissions generated from project-induced vehicle trips, known as “mobile source emissions.” Other emissions, identified as “energy source emissions,” would be generated from energy consumption for water and space heating for the nature center building, while “area source emissions,” would be generated from structural maintenance and landscaping activities, and use of consumer products.

Operational emissions from the proposed project (2016) estimated using the operational module of CalEEMod. The vehicle trip generation rates of the proposed project were obtained from the traffic study (La Point, 2014). In addition, default values generated by CalEEMod, including the expected vehicle fleet mix, and vehicle traveling speed and distance assumptions, were used in each model run. The model-predicted area source, energy source, and mobile source emissions for the proposed project are presented in **Table 4.3-7**: Daily Project Operational Emissions.

Table 4.3-7
DAILY PROJECT OPERATIONAL EMISSIONS

Emissions Source	Pollutant (lbs/day)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Proposed Project (2014)					
Area Source Emissions	0.59	0.00	0.00	0.00	0.00
Energy Source Emissions	0.00	0.02	0.02	0.00	0.00
Mobile Source Emissions	2.53	2.41	10.07	1.53	0.43
Total Operational Emissions	**3.12**	**2.43**	**10.07**	**1.53**	**0.43**
SCAQMD Significance Thresholds	55	55	550	150	55
Significant (Yes or No)	**No**	**No**	**No**	**No**	**No**

Source: Calculated by UltraSystems with CalEEMod (Version 2013.2).

As indicated in **Table 4.3-7**, the long-term unmitigated project operational emissions of ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$ will be less than significant. Therefore, no operational mitigation measures will be required.

c) Less Than Significant Impact.

As described above in Section 4.3a, the proposed project will not exceed any of the SCAQMD daily criteria pollutant thresholds, including ROG, PM_{10}, and $PM_{2.5}$, for construction and operations. The proposed project would not result in a cumulatively considerable net increase in any criteria pollutant; therefore, the impact will be less than significant

d) Less Than Significant Impact With Mitigation.

Localized Short-Term Air Quality Effects

Construction of the proposed project would generate short-term and intermittent emissions. **Table 4.3-8**: Results of Localized Significance Analysis – Construction) shows the results of the localized significance analysis for the proposed project.

The analysis was based on SCAQMD's Localized Significance Thresholds (LSTs) for a five-acre disturbance area approximately 25 meters (82 feet) away from the nearest sensitive receptor (refer to **Table 4.3-8**). In general, for a given distance away from a sensitive receptor, the greater the construction area is, the greater the significance threshold is. Also, for a given construction site area, the farther away the receptor is, the greater the significance threshold is. Both Single-Family Residence #1 and #2 are above their respective the LSTs for PM_{10} and $PM_{2.5}$; However, with the fugitive dust control measures required under SCAQMD Rule 403 and mitigation measures AQ-MM-1 and AQ-MM-2 presented below, daily PM_{10} and $PM_{2.5}$ emissions for the entire project are anticipated to be below the threshold and less than significant. Prompt replacement of bare surfaces with paving or vegetation will reduce particulate matter concentrations by 32% (SCAQMD, 1993). Watering exposed surfaces at least twice daily will reduce PM_{10} and $PM_{2.5}$ concentrations by 61% (SCAQMD, 2007).

AQ-MM-1: Replace ground cover of disturbed area.

AQ-MM-2: During grading, water exposed surfaces at least twice daily.

Table 4.3-8
RESULTS OF LOCALIZED SIGNIFICANCE ANALYSIS - CONSTRUCTION

Nearest Sensitive Receptor	Maximum Emissions (lbs/day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
#1 Single-Family Residence - Unmitigated (47 feet from proposed project)	**57.62**	**42.96**	**21.20**	**12.82**
#1 Single-Family Residence - Mitigated (47 feet from proposed project)	**57.62**	**42.96**	**8.67**	**5.93**
SCAQMD Significance Thresholds(5-acre site and 25 meters away)	*221*	*1,531*	*13*	*6*
Significant – Unmitigated (Yes or No)	**No**	**No**	**Yes**	**Yes**
Significant – Mitigated (Yes or No)	**No**	**No**	**No**	**No**
#2 Single-Family Residence – Unmitigated (63 feet from proposed project)	**57.62**	**42.96**	**21.20**	**12.82**
#2 Single-Family Residence – Mitigated (63 feet from proposed project)	**57.62**	**42.96**	**8.67**	**5.93**
SCAQMD Significance Thresholds(5-acre site and 100 meters away)	*221*	*1,531*	*13*	*6*
Significant – Unmitigated (Yes or No)	**No**	**No**	**Yes**	**Yes**
Significant – Mitigated (Yes or No)	**No**	**No**	**No**	**No**

Source:
Calculated by UltraSystems with CalEEMod (Version 2013.2.1).
Chico, T. and Koizumi, J. Final Localized Significance Threshold Methodology. South Coast Air Quality Management District, Diamond Bar, California. June 2003.

Although sensitive receptors would be exposed to diesel exhaust from construction equipment, which has been associated with lung cancer (CA EPA, 1998), the duration of exposure would not be sufficient to result in a significant cancer risk. Carcinogenic health risk assessments are based upon an assumption of 70 years continuous exposure, while the exposure in the present case would be intermittent over a maximum of about two years. Therefore, no cancer health risk assessment was necessary. Acute non-cancer risk assessments are based upon one-hour maximum exposures, but acute reference exposure levels (RELs) for diesel exhaust and diesel particulate matter have not been established by the Office of Environmental Health Hazard Assessment (CA EPA, 2008).

Localized Short-Term Air Quality Effects

As discussed in Section 4.3b, the daily project operational emissions will not exceed the SCAQMD regional thresholds (Refer to **Table 4.3-7**), and would not expose adjacent sensitive receptors to substantial pollutant concentrations.

Increased local vehicle traffic may contribute to off-site air quality impacts. The traffic increases in nearby intersections may contribute to traffic congestion, which may create "pockets" of CO called hotspots. These pockets have the potential to exceed the state 1-hour standard of 20 ppm and/or the 8-hour standard of 9.0 ppm, thus affecting sensitive receptors that are close to these roadways or intersections. CO hotspots typically are found at busy intersections, but can also occur along congested major arterials and freeways. They occur mostly in the early morning hours when winds are stagnant and ambient CO concentrations are elevated. In accordance with the California Department of Transportation (Caltrans) CO Protocol (Caltrans, 1997), CO hotspots are evaluated when a project degrades the level of service (LOS) at a nearby signalized intersection to "E" or worse. Typically, hotspots analyses are not performed for unsignalized intersections, which have lower traffic volumes than those with signals. This is particularly the case when a hotspots analysis shows no impacts for the most congested, signalized intersections.

The traffic study performed for this project concluded that the traffic generated by project activities would not lower the LOS to "E" or worse. A CO hotspots analysis was therefore not required or performed.

e) Less Than Significant Impact.

Construction activities for the proposed project would generate airborne odors associated with the operation of construction vehicles (i.e., diesel exhaust), asphalt paving operations, and the application of paints and coatings. These emissions would occur during daytime hours only, and would be isolated to the immediate vicinity of the construction site and activity. Therefore, they would not affect a substantial number of people. When project construction is completed, odors from the proposed uses of the proposed project would not significantly differ from odors emanating from single-family residences within the vicinity. Finally, no wastewater treatment plants or other industrial facilities known to cause odors are within 1,000 feet of the project site.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
4.4 Biological Resources				
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion

A pedestrian survey was conducted on April 29, 2013 by Mr. Stephen O'Neil to survey vegetation within the project site. At the time of the survey, the project site was covered by approximately 60 percent of asphalt, concrete and buildings (current condition). Based on the survey, non-native grasses (wild oat and foxtail), weeds, five ornamental trees (including a Ficus sp., two Pinus sp.), an area with sand covering native soil, and a small garden area with dense leaf litter were observed throughout the portion of the project site, including slope areas, that is not covered by asphalt, concrete and buildings. No wetland or riparian habitats, and no candidate, sensitive, special status or other species protected under the California Endangered Species Act (CESA) were observed within the project site.

Impact Analysis

a) Less Than Significant Impact with Mitigation.

Existing trees that would be removed as part of demolition are not protected by federal or state regulations. However, these trees may provide limited habitat to candidate, sensitive, special status or other species protected under the California Endangered Species Act (CESA).

According to the Baldwin Hills Park Master Plan (2002), there are 166 species of native birds in the Baldwin Hills. Of these, 41 regularly and 18 occasionally nest in the Baldwin Hills. Native birds that currently breed in the Baldwin Hills include the California quail, Cassin's kingbird, barn swallow, Bewick's wren, phainopepla, orange-crowned warbler, common yellowthroat, spotted towhee, California towhee, song sparrow and black-headed grosbeak. The blue grosbeak occurs as a nonbreeding visitor. Several bird species including the greater roadrunner, cactus wren and California thrasher, seem to have disappeared in recent years.

The federal and state delisted peregrine falcon occurs in the Baldwin Hills, and is the only fully protected species in the area listed by the California Department of Fish and Wildlife (CDFW). The burrowing owl, olivesided flycatcher, yellow warbler, yellow-breasted chat, loggerhead shrike, and tricolored blackbird may occur in the Baldwin Hills, and are listed as Species of Special Concern by CDFW. The pallid bat and western mastiff bat are also Species of Special Concern that may occur in the area. Populations of these species are highly localized and require active management to prevent them from becoming endangered or threatened. The decline in populations of species in Baldwin Hills is likely due to habitat loss and degradation, and impacts of native and non-native predators, including feral cats and dogs, raccoons, gray foxes, fox squirrels, and jays, crows and ravens.

Due to the possibility of candidate, sensitive, or special status species existing on the project site, the following mitigation measure is proposed to reduce impacts to a less than significant level:

BIO-MM-1: A pre-construction survey would be conducted by a qualified biologist three days before vegetation removal, demolition, and/or construction activities to avoid impacts to candidate, sensitive, or special status species identified in the survey. If construction work is delayed for one week or more then approved work areas will need to be resurveyed by the biologist. If candidate, sensitive, or special status species are observed during the pre-construction survey, then no work would commence until a biological monitor develops measures to remove species or establishes buffer zones to reduce impacts to these identified species to a less than significant level, and provide weekly monitoring to verify compliance with mitigation measures.

b) Less Than Significant Impact.

c) Less Than Significant Impact.

Ballona Creek is located approximately 0.75 mile to the west and is the nearest surface water body to the project site. No wetland or riparian habitats, and no significant natural watercourses presently flow through the Baldwin Hills. Isolated reaches of riparian habitat are supported, in large part, by landscape irrigation within the Baldwin Hills, but these features are not observed within the project site. For these reasons, impacts to riparian or wetland habitats from construction and operation of the Stoneview Nature Center would be less than significant.

d) Less Than Significant With Mitigation.

Numerous fish species are known to exist in Ballona Creek. The project site is more than 0.75 mile from this watercourse, and therefore, would not impact fish in Ballona Creek. Existing ornamental trees that would be removed as part of demolition may provide limited habitat to birds protected by the Migratory Bird Treaty Act (MBTA) or California Fish and Game Code (CFGC). The following mitigation measure is proposed to reduce impacts to nesting birds to a less than significant level:

BIO-MM-2: Vegetation removal, demolition, and construction activities should take place between September 1st and February 14th to avoid the nesting season of MBTA and CFGC protected migratory and special-status birds. However, if construction occurs between February 15th and August 31st, the following will be implemented:

- A pre-construction survey within three days of vegetation removal, demolition, and/or construction activities will be conducted by a qualified biologist to determine the presence or absence of active nests within, or adjacent to, the project site to avoid the nesting of breeding migratory birds.

- If no breeding or nesting birds are detected within or adjacent to the project site during the pre-construction survey period, construction activities may proceed as scheduled.

- If active breeding/nesting activities are observed and confirmed within or adjacent to the project site during the pre-construction survey period, then work activities within 250 feet (or 300 feet for raptors, 500 feet for fully protected species, or a linear distance determined appropriate for the species approved by the biologist) of any active nest will be delayed until the young birds have fledged and left the nest. The biologist will flag the appropriate buffer size required based on the specific situation, tolerances of the species, and the nest locations. A work area buffer zone around any active nests will be demarcated, indicating where work may not occur. Project activities may resume in this area after the biologist has determined that nests are no longer active.

e) No Impact.

The County has adopted an ordinance to protect oak trees within the County.[14] Activities within the project site would be in compliance with this ordinance because no oak trees occur within the project site.

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14 http://www.montecitohts.org/oaktreeordinance.pdf Accessed November 2013.

f) No Impact.

The project site is not within the jurisdiction of a habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

4.5 Cultural Resources	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Discussion

A records search at the local California Historic Resources Information System (CHRIS) and South Central Coastal Information Center (SCCIC) at CSU Fullerton, a request to the Native American Heritage Commission (NAHC) for a search of its Sacred Lands File (SLF), and inquiries to local Native American entities were conducted to provide background information about the project site.

A cultural resources pedestrian field survey was conducted April 29, 2013 by Stephen O'Neil, M.A., RPA, UltraSystems' Cultural Resource Manager. He observed the entire project site and walked 10-meter transects over the former school's playing field, which was the only open ground present. This field was heavily covered with non-native grasses, weeds, and ornamental trees. Soil brought up by gophers was checked. Other open areas consisted of a sand-lot with brought in sand covering native soil, and a small garden area with dense leaf litter. Observing the immediate topography, it is apparent that the school grounds were graded flat out of the hills surrounding the project site on the south and west sides. The surface is composed of 17 to 23 feet of fill material. No cultural resources were observed during the survey and there is no original surface soil remaining at the project site.

The Native American Heritage Commission was contacted April 24, 2013 via e-mail and postal letter by Stephen O'Neil. The Commission replied by fax April 26 stating that "A record search of the NAHC Sacred Lands File failed to indicate the presence of Native American traditional cultural place(s) in the project site location submitted, based on the USGS coordinates, the Area of Potential Effect (APE)." They recommended that local Native American tribes and organizations be contacted to provide further information. A contact list containing ten such groups was provided by the NAHC. On May 2, 2013 a letter and map describing the project was sent to each of the ten tribes and their representatives, and an e-mail was sent to all ten with the same letter and map. On May 2, 2013 an e-mail response was received from John Tommy Rosas acknowledging the e-mail from us; there was an e-mail response from Sam Dunlop requesting that cultural and Native American monitors be present during any ground disturbing excavation; and there was a telephone call from Robert Dorame expressing concern for work in the area based on the finding of a Native American burial at a nearby college campus, and he also said that he would get back to us with further details. Follow up telephone calls to all of the Native American organizations and their representatives were made May 10, 2013. No further response from the Native American community has been received.

The archaeological and historic records search was conducted in May 2013 at the SCCIC. No archaeological sites or historic properties have been recorded within a mile radius of the project site. Three surveys that included the project site have been conducted in the past and no cultural resources were noted.

a) Less Than Significant Impact.

b) Less Than Significant Impact.

There are no known cultural resources on the project site, no Native American sacred lands in proximity to the project site, no observable cultural resources at the project site, and the deep grading that has already occurred at the project site which was observed would preclude the presence of potential remaining resources that may have been there in the past. Therefore there is little or no likelihood of cultural resources or burials present that would be disturbed or uncovered with excavations there.

c) Less Than Significant Impact With Mitigation.

The project site is within the subsurface administrative field boundary of the active, Inglewood Oil Field. The Project site is underlain by a thick sequence of Tertiary and Pleistocene sedimentary rocks, Holocene alluvium, surficial soils, and 17 to 23 feet artificial fill. Near-surface sediments consist primarily of the early to middle Pleistocene, marine San Pedro Formation and the upper Pleistocene, non-marine to shallow marine Lakewood Formation. Vertebrate fossil sites are well known from the Lakewood and San Pedro formations, especially at the geologic contact between these two formations. Therefore, these rock formations are considered to have a high paleontological sensitivity. The source of the 17 to 23 feet of fill material imported to this site previously is not known, and may have been local fossiliferous rocks. Implementation of the following mitigation measure would reduce potential impacts to paleontological resources to a less than significant level.

<u>Mitigation Measure</u>

CUL-MM-1: In the event that a previously unidentified paleontological resource is uncovered, ground disturbing work within 20 feet of the discovery will be halted. A qualified paleontological monitor will divert or direct construction activities in the area of an exposed fossil in order to facilitate evaluation and, if necessary, salvage of the exposed fossil. A paleontologist will inspect the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts will occur, no further effort will be required. If the resource cannot be avoided and may be subject to further impact, the paleontologist will evaluate the resource and determine whether it is "unique" under CEQA, Appendix G, Part V. If the resource is determined to not be unique, work may commence in the area. If the resource is determined to be a unique paleontological resource, work will remain halted, and the paleontologist will consult with project proponent regarding methods to ensure that no substantial adverse change would occur to the significance of the resource. Preservation in place (i.e., avoidance) is the preferred method of ensuring that there are no substantial adverse impacts to the resource, and will be required unless there are other equally effective methods. Other methods include ensuring that the fossils are recovered, prepared, identified, catalogued, and analyzed according to current professional standards. Provisions for preparation and identification of fossils collected will be made before donation to a suitable repository. Recovered fossils will be curated at a local accredited and permanent scientific institution according to Society of Vertebrate Paleontology standard guidelines standards. Work may commence upon completion of in-place preservation or recovery.

d) Less Than Significant Impact With Mitigation.

The proposed project would impact areas that have been previously disturbed by former construction and school uses; therefore, it is unlikely that human remains would be encountered during demolition and construction activities. In the unlikely event that human remains are encountered, the following mitigation measure would be implemented.

CUL-MM-2: The State of California Health and Safety Code Section 7050.5 states that in the event that human remains are discovered during construction activities, the following procedure shall be observed: All construction activity shall stop immediately and the qualified archaeologist will contact the Los Angeles County Coroner. The Coroner has two working days to examine human remains after being notified by the responsible person (e.g., the construction supervisor). If the coroner determines the remains to be Native American, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC will immediately notify the person it believes to be the Most Likely Descendent (MLD) of the deceased Native American. The MLD has 48 hours to make recommendations to the property owner, or representative, for the treatment or disposition, with proper dignity, of the human remains and grave goods. If the MLD does not make recommendations within 48 hours the owner shall reinter the remains in an area of the property secure from further disturbance following procedures required by the Public Resources Code, Sections 5097.94, 5097.98, 5097.99, and Health and Safety Code, Section 7050.5. If the County does not accept the descendant's recommendations, the owner or the descendent may request mediation by the NAHC.

4.6 Geology and Soils	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
Would The Project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Impact Analysis

a-i) Less than Significant Impact.

Approximately two-thirds of the proposed project is within an Alquist-Priolo Earthquake Fault Zone.[15] According to the California Geological Survey, the project site is on two north-trending mapped "earth cracks" within the Newport-Inglewood fault zone. Based on previous investigations, north-south trending faults occur within the proposed project site east of existing buildings, and

15 Prior to January 1, 1994, Alquist-Priolo Earthquake Fault Zones were known as "Special Studies Zones."

other north-south trending faults extend beneath existing buildings (MACTEC, 2010). Based on these findings, there is substantial evidence for rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, within the project site. Design and construction of structures within the project site must comply with zoning laws, ordinances, rules, and regulations required by California Public Resource Code (PRC) Section 2621 et seq. These requirements are intended to: (1) provide policies and criteria to assist cities, counties, and state agencies in the exercise of their responsibility to prohibit the location of developments and structures for human occupancy across the trace of active faults, and (2) provide citizens of the state with increased safety and to minimize the loss of life during and immediately following earthquakes by facilitating seismic retrofitting to strengthen buildings, including historical buildings, against ground shaking. The proposed project will adhere to the recommendations identified in the Geotechnical Evaluation or other equally-effective site specific engineering techniques in compliance with city requirements. For these reasons, impacts related to known earthquake faults would be less than significant. The Alquist-Priolo Earthquake Fault Zone and "surface cracks" are shown in **Figure 4.6-1**.

Figure 4.6-1
GEOTECHNICAL FEATURES

a-ii) Less than Significant Impact.

The proposed project is within a seismically active region that could potentially cause collapse of structures, buckling of walls, and damage to foundations from strong seismic ground shaking. However, the project will be constructed in conformance with applicable local building codes and requirements under the California Building Code (CBC) and Uniform Building Code (UBC) for Seismic Zone 4 to reduce impacts from strong seismic ground shaking. For these reasons, impacts resulting from strong seismic ground shaking will be less than significant.

a-iii) Less than Significant Impact.

The Culver City Liquefaction/Landslide Map (City of Culver City, 2007) indicates that the proposed project is not within a liquefaction zone. The potential for liquefaction within the proposed project site is less than significant because groundwater is more than 50 feet below the ground surface, and surface soils are dense to very dense alluvium. These conditions are not conducive to liquefaction (MACTEC, 2010). There may be seismic-related ground failure because movement along active faults was estimated to be up to two feet within the proposed project site. Foundations will be constructed in conformance with applicable local building codes and requirements under the California Building Code (CBC) and Uniform Building Code (UBC) for Seismic Zone 4 to reduce impacts from seismic-related ground failure. For these reasons, impacts resulting from seismic-related ground failure will be less than significant.

a-iv) Less than Significant Impact.

The Culver City Liquefaction/Landslide Map (City of Culver City, 2007) indicates that a small area in the northwestern corner of the proposed project site is within a landslide hazard zone. The steep cut slopes along the western portion of the site are located in an area identified as having a potential for seismic slope instability by the California Division of Mines and Geology (MACTEC, 2010). Based on field observations, steeper portions of the cut slope show evidence of ongoing minor surficial failures, erosion, and soil creep. However, there was no observed evidence of deep-seated, major landslides in fill or cut slopes, and the site is not on or in the path of any known existing or potential landslides. For these reasons, deep seated landslides are not considered a significant hazard (MACTEC, 2010). No building structure is proposed within the western portion of the site in the vicinity of the landslide hazard zone or seismic slope instability. This portion of the proposed project site is designated for planting and parking. The proposed nature center building would be in the northeastern portion of the proposed project site. This area is relatively level. The risk of damage to the proposed nature center building from landslides or seismic slope instability, or for construction activity to induce landslides near the northwestern property boundary is less than significant.

b) Less than Significant.

The proposed project site is considered urban land, which is defined as an area where more than 85% of the surface is covered by asphalt, concrete, buildings, and other structures. Planned demolition and construction activities would potentially expose soils to short-term wind and water erosion. Best management practices (BMPs) will be specified in the required project-specific Stormwater Pollution Prevention Plan (SWPPP) to reduce soil erosion and loss of topsoil during and after construction to less than significant levels.

c) Less than Significant Impact.

Based on the results of the geotechnical investigation (AMEC, 2012) (see Appendix C), existing undocumented fill encountered to depths of approximately 17 to 23 feet below the existing ground surface was likely placed during the original grading of the project site in 1956. The deeper fill soils were encountered in the northeastern portion of the site. Fill soils primarily consist of silty sand, clayey sands, and poorly graded sands with occasional sand clay layers; they do not contain significant amounts of debris or organic matter; and are susceptible to differential settlement. Fill compaction does not meet the minimum 90% of the maximum dry density commonly used for slope stability and structures. Fill soils beneath mat foundations and floor slabs will be compacted to at least 95% of the maximum dry density obtainable by the ASTM Designation D1557, or proposed buildings will be supported on deep foundations consisting of either drilled cast-in-place piles or driven precast concrete piles extending into natural soils as approved by jurisdictional agencies.

d) Less than Significant.

Expansive soils shrink and swell with changes in soil moisture. Soil moisture may change from landscape irrigation, rainfall, and utility leakage. Soils with an Expansion Index (EI) greater than 50 are considered expansive according to the California Building Code (CBC) (Table 18-I-B). Expansive soils are commonly very fine-grained with high to very high percentages of clay. Artificial fill within the proposed project area is composed primarily of dark brown clayey sand. Alluvium consists of fine to medium silty sand and sand with gravel. The San Pedro Formation units consist primarily of moderately well-consolidated silty sand and sand with occasional lenses of pebbles and fine gravel. Older colluvium and possible alluvial terrace deposits consist of slightly mottled and massive sandy clay to sandy silts with gravels. The reported Expansion Index (EI = 2) for fill soils tested within the proposed project site was very low (AMEC, 2012, **Appendix C**). Based on these conditions, fill and natural soils within the proposed project site are not expansive. The risk to life or property within the proposed project site from expansive soils is less than significant.

e) No Impact.

The proposed project would not include septic tanks or alternative waste water disposal systems. There will be no impact from septic tanks or alternative waste water disposal systems within the proposed project site.

4.7 Greenhouse Gas Emissions	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion

Greenhouse Gases

Greenhouse gases (GHGs) are components of the atmosphere that trap heat relatively near the surface of the earth and, therefore, contribute to the greenhouse effect and global warming. Most GHGs occur naturally in the atmosphere, but increases in their concentration result from human activities such as the burning of fossil fuels. GHGs are defined under the California Global Warming Solutions Act of 2006 (AB 32) as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Associated with each GHG species is a "global warming potential" (GWP), which is defined as the ratio of degree of warming to the atmosphere that would result from the emission of one mass unit of a given GHG compared with one equivalent mass unit of CO_2 over a given period of time. By this definition, the GWP of CO_2 is always 1. The GWPs of CH_4 and N_2O are 21 and 310, respectively.[16] "Carbon dioxide equivalent" (CO_2e) emissions are calculated by weighting each GHG compound's emissions by its GWP and then summing the products. Though HFCs, PFCs, and SF_6 are not emitted by project sources, they are discussed below for thoroughness.

Carbon dioxide (CO_2) is a clear, colorless, and odorless gas. Fossil fuel combustion is the main human-related source of CO_2 emissions; electricity generation and transportation are first and second in the amount of CO_2 emissions, respectively. Carbon dioxide is the basis of GWP, and thus has a GWP of 1.

Methane (CH_4) is a clear, colorless gas, and is the main component of natural gas. Anthropogenic sources of CH_4 are fossil fuel production, biomass burning, waste management, and mobile and stationary combustion of fossil fuel. Wetlands are responsible for the majority of the natural methane emissions (U.S. EPA, 2011). As mentioned above, CH_4, within a 100-year period, is 21 times more effective in trapping heat than is CO_2.

Nitrous oxide (N_2O) is a colorless, clear gas, with a slightly sweet odor. N_2O has both natural and human-related sources, and is removed from the atmosphere mainly by photolysis, or breakdown

16 These values were reported by the Intergovernmental Panel on Climate Change in 1995. Some GWP values have been updated since 1995 on the basis of improved calculation methods. The 1995 values continue to be used by international convention to maintain consistency in GHG reporting.

by sunlight, in the stratosphere. The main human-related sources of N_2O in the United States are agricultural soil management (synthetic nitrogen fertilization), mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. Nitrous oxide is also produced from a wide range of biological sources in soil and water. Within a 100-year span, N_2O is 310 times more effective in trapping heat than is CO_2 (U.S. EPA, 2010).

Effects of Climate Change

Global temperatures are expected to continue to rise as human activities continue to add the aforementioned greenhouse gases to the atmosphere. The Earth's average surface air temperature has increased by more than 1.4°F from 1900 to 2000. The warmest global average temperatures on record have all occurred within the past 10 years, with the warmest being 2005 and 2010 (U.S. EPA, "Climate…," 2012).

Most of the U.S. is expected to experience an increase in average temperature. Precipitation changes, which are very important to consider when assessing climate change effects, are more difficult to predict. Whether rainfall will increase or decrease remains difficult to project for specific regions (IPCC, 2007). The extent of climate change effects, and whether these effects prove harmful or beneficial, will vary by region, over time, and with the ability of different societal and environmental systems to cope with or adapt to the change. Human health, natural ecosystems, agriculture, coastal areas and heating and cooling requirements are examples of climate-sensitive systems. Rising average temperatures are already affecting the environment. Some observed changes include thawing of permafrost; shrinking of glaciers; later freezing and earlier break-up of ice on bodies of freshwater; lengthening of growing seasons; shifts in plant and animal ranges; and earlier flowering of trees (U.S. EPA, "Climate…"& "Impact…," 2012).

Human Health Effects

Climate change may increase the risk of vector-borne infectious diseases, particularly those found in tropical areas and spread by insects, such as malaria, dengue fever, yellow fever, and encephalitis (U.S. EPA, "Human…," 2012). Cholera, which is associated with algal blooms, could also increase. While these health effects would largely affect tropical areas in other parts of the world, effects would also be felt in California. Warming of the atmosphere would be expected to increase smog and particulate pollution, which could adversely affect individuals with heart and respiratory problems, such as asthma or other lung diseases. Extreme heat events would also be expected to occur with more frequency and could adversely affect the elderly, children, and the homeless. Finally, the water supply effects and seasonal temperature variations expected as a result of climate change could affect the viability of existing agricultural operations, making the food supply and food security more vulnerable.

Ecosystem and Biodiversity Effects

Climate change is expected to have effects on diverse types of ecosystems, from alpine to deep-sea habitat (U.S. EPA, "Human…," 2012). As temperatures and precipitation change, seasonal shifts in vegetation would occur; this could affect the distribution of associated fauna and flora species. As the range of species shifts, habitat fragmentation could occur, with acute effects on the distribution of certain sensitive species. The Intergovernmental Panel on Climate Change (IPCC) states that "20 percent to 30 percent of species assessed may be at risk of extinction from climate change effects within this century if global mean temperatures exceed 2 to 3°C (3.6 to 5.4°F) relative to pre-industrial levels" (IPCC, 2007). Shifts in existing biomes could also make ecosystems vulnerable to encroachment by invasive species. Wildfires, which are an important control mechanism in many ecosystems, may become more severe and more frequent, making it difficult for native plant species to repeatedly re-germinate. In general, climate change is expected to put a number of stressors on ecosystems, with potentially catastrophic effects on biodiversity.

Sea Level Rise Effects

The impact on global climate change as a result of anthropogenic activities can be seen in the increases in air and ocean temperatures, rising sea levels, and widespread melting of snow and ice. Eleven of the twelve years from 1995 through 2006 ranked among the warmest years of global surface temperature since 1850. Just as well, observations since 1961 showed that the ocean has been absorbing approximately 80% of the heat added to the global climate system. As a result, the warmer temperatures cause seawater expansion, thus increasing the volume and contributing to the rise in sea level. On average, global sea level has risen at a rate of 1.8 millimeters per year over 1961 to 2003. Additionally, the decrease in glaciers and ice caps as well as the decrease in ice sheets of Greenland and Antarctica has been shown to contribute to sea level rise (IPCC, "Summary…," 2007). Coastal regions are known to be climate-sensitive areas and sea level rise, as a result of climate change, could impact these coastal zones. Shoreline erosion, coastal flooding, and water pollution affect man-made infrastructure and coastal ecosystems. The addition of varying rates of sea level rise could worsen the many problems that coastal areas already face (U.S. EPA, "Coastal…," 2012).

Federal Climate Change Regulation

The federal government has been involved in climate change issues at least since 1978, when Congress passed the National Climate Program Act (92 Stat. 601), under authority of which the National Research Council prepared a report predicting that additional increases in atmospheric CO_2 would lead to non-negligible changes in climate. At the "Earth Summit" in 1992 in Rio de Janeiro, President George H. W. Bush signed the United Nations Framework Convention on Climate Change (UNFCCC), a nonbinding agreement among 154 nations to reduce atmospheric concentrations of carbon dioxide and other greenhouse gases. The treaty was ratified by the U.S. Senate. However, when the UNFCCC signatories met in 1997 in Kyoto, Japan, and adopted a protocol that assigned mandatory targets for industrialized nations to reduce greenhouse gas emissions, the U.S. Senate expressed its opposition to the treaty. The Kyoto Protocol was not submitted to the Senate for ratification.

In *Massachusetts et al. v. Environmental Protection Agency et al.* [549 U.S. 497 (2007)], the U.S. Supreme Court ruled that CO_2 was an air pollutant under the Clean Air Act, and that consequently, the U.S. Environmental Protection Agency (USEPA) had the authority to regulate its emissions. The Court also held that the Administrator must determine whether emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On April 24, 2009, the USEPA published its intention to find that (1) the current and projected concentrations of the mix of six key greenhouse gases—CO_2, CH_4, N_2O, HFCs, PFCs and SF_6—in the atmosphere threaten the public health and welfare of current and future generations, and that (2) the combined emissions of GHG from new motor vehicles and motor vehicle engines contribute to the atmospheric concentrations of these key greenhouse gases and hence to the threat of climate change (74 Fed. Reg. 18886). These findings are required for subsequent regulations that would control GHG emissions from motor vehicles.

California Climate Change Regulation

Executive Order S-3-05 (GHG Emissions Reductions). Executive Order #S-3-05, signed by Governor Arnold Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80% reduction in GHG emissions to below 1990 levels by 2050.

The California Global Warming Solutions Act of 2006 (AB 32). In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Global Warming Solutions Act of 2006 (Health and Safety Code § 38500 et seq.), into law. AB 32 was intended to effectively end the scientific debate in California over the existence and consequences of global warming. In general, AB 32 directs the California Air Resources Board (CARB) to do the following:

- On or before June 30, 2007, publicly make available a list of discrete early action GHG emission reduction measures that can be implemented prior to the adoption of the statewide GHG limit and the measures required to achieve compliance with the statewide limit.
- By January 1, 2008, determine the statewide levels of GHG emissions in 1990, and adopt a statewide GHG emissions limit that is equivalent to the 1990 level (an approximately 25% reduction in existing statewide GHG emissions).
- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures.
- On or before January 1, 2011, adopt quantifiable, verifiable, and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020, to become operative on January 1, 2012, at the latest. The emission reduction measures may include direct emission reduction measures, alternative compliance mechanisms, and potential monetary and non-monetary incentives that reduce GHG emissions from any sources or categories of sources as CARB finds necessary to achieve the statewide GHG emissions limit.
- Monitor compliance with and enforce any emission reduction measure adopted pursuant to AB 32.

On December 11, 2008, the CARB approved the *Climate Change Scoping Plan* (CARB, 2008) pursuant to AB 32. The Scoping Plan recommends a wide range of measures for reducing GHG emissions, including (but not limited to):

- Expanding and strengthening of existing energy efficiency programs.
- Achieving a statewide renewables energy mix of 33 percent.
- Developing a GHG emissions cap-and-trade program.
- Establishing targets for transportation-related GHG emissions for regions throughout the state, and pursuing policies and incentives to meet those targets.
- Implementing existing state laws and policies, including California's clean car standards, goods movement measures and the Low Carbon Fuel Standard.

- Targeted fees to fund the state's long-term commitment to administering AB 32.

Executive Order S-01-07 (Low Carbon Fuel Standard). Executive Order #S-01-07 (January 18, 2007) establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020 through establishment of a Low Carbon Fuel Standard. Carbon intensity is the amount of CO_2e per unit of fuel energy emitted from each stage of producing, transporting and using the fuel in a motor vehicle. On April 23, 2009 the Air Resources Board adopted a regulation to implement the standard.

Senate Bill 97. Senate Bill 97 was signed by the governor on August 24, 2007. The bill required the Office of Planning and Research (OPR), by July 1, 2009, to prepare, develop and transmit to the resources agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, including, but not limited to, effects associated with transportation or energy consumption. On April 13, 2009 OPR submitted to the Secretary for Natural Resources its proposed amendments to the state CEQA Guidelines for greenhouse gas emissions. The Resources Agency adopted those guidelines on December 30, 2009, and they became effective on March 18, 2010. The amendments treat GHG emissions as a separate category of impacts; i.e. they are not to be addressed as part of an analysis of air quality impacts.

Section 15064.4, which was added to the CEQA Guidelines, specifies how the significance of impacts from GHGs is to be determined. First, the lead agency should "make a good faith effort" to describe, calculate or estimate the amount of GHG emissions resulting from a project. After that, the lead agency should consider the following factors when assessing the impacts of the GHG emissions on the environment:

- The extent to which the project may increase or reduce GHG emissions, relative to the existing environmental setting.

- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional or local plan for the reduction or mitigation of GHG emissions.

The Governor's Office of Planning and Research (OPR) asked the CARB to make recommendations for GHG-related thresholds of significance. On October 24, 2008, the CARB issued a preliminary draft staff proposal for *Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act* (CARB, "Preliminary…," 2008). After holding two public workshops and receiving comments on the proposal, CARB staff decided not to proceed with threshold development (Ito, D., personal communication, 2010). Quantitative significance thresholds, if any, are to be set by local agencies.

Senate Bill 375. Senate Bill 375 requires coordination of land use and transportation planning to reduce GHG emissions from transportation sources. Regional transportation plans, which are developed by metropolitan transportation organizations such as the Southern California Association of Governments (SCAG), are to include "sustainable community strategies" to reduce GHG emissions.

Title 24. The Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6, of the *California Code of Regulations*) were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Compliance with Title 24 will result in decreases in GHG emissions. The California Energy Commission adopted the 2008 changes to the Building Energy Efficiency Standards on April 23, 2008 with an aim to promote the objectives listed below.[17]

- Provide California with an adequate, reasonably-priced and environmentally-sound supply of energy.
- Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its greenhouse gas emissions to 1990 levels by 2020.
- Pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.
- Act on the findings of California's Integrated Energy Policy Report (IEPR) that Standards are the most cost effective means to achieve energy efficiency, expects the Building Energy Efficiency Standards to continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Standards in reducing energy related to meeting California's water needs and in reducing greenhouse gas emissions.
- Meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of state building codes.
- Meet the Executive Order in the Green Building Initiative to improve the energy efficiency of nonresidential buildings through aggressive standards.

The provisions of Title 24, Part 6 apply to all buildings for which an application for a building permit or renewal of an existing permit is required by law. They regulate design and construction of the building envelope, space-conditioning and water-heating systems, indoor and outdoor lighting systems of buildings, and signs located either indoors or outdoors. Title 24, Part 6 specifies mandatory, prescriptive and performance measures, all designed to optimize energy use in buildings and decrease overall consumption of energy to construct and operate residential and nonresidential buildings (CA Energy Commission, "…Residential and Nonresidential…," 2008). Mandatory measures establish requirements for manufacturing, construction and installation of certain systems; equipment and building components that are installed in buildings.

The GHG Technical Report is provided in **Appendix D**.

<u>Impact Analysis</u>

a) Less Than Significant Impact.

Although neither the County of Los Angeles nor the City of Culver City has adopted a quantitative threshold of significance for greenhouse gases, the city is within the South Coast Air Quality

17 These became effective January 1, 2010.

Management District's (SCAQMD's) jurisdiction; therefore, the SCAQMD's interim thresholds will be used for this analysis. In October, 2008, the SCAQMD issued its *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* (Smith and Krause, 2008). The SCAQMD Board approved the document at its December 5, 2008 meeting.

The SCAQMD guidance proposes a tiered approach to establishing a significance threshold. It is designed to "capture" 90 percent of GHG emissions; that is, the threshold is low enough that it applies to the sources of 90 percent of the region's GHG emissions, and is high enough that it excludes most minor sources. The SCAQMD approach considers "direct, indirect, and, to the extent information is available, life cycle emissions during construction and operation. Construction emissions will be amortized over the life of the project, defined as 30 years, added to the operational emissions, and compared to the applicable interim GHG significance threshold tier."

As noted above, the SCAQMD's guidance uses a tiered approach rather than a single numerical emissions threshold. If a project's GHG emissions "fail" the non-significance of a given tier, then one goes to the next one. The tiers are summarized very briefly as follows.

Tier 1 – Applicable Exemptions. This tier no longer applies, so it is necessary to consider the next tier.

Tier 2 – Emissions Within Budgets of Regional Plans. GHG emissions are less than significant if the project is consistent with a local GHG reduction plan; however, Culver City has not adopted a local GHG reduction plan that meets all the following requirements classified in Tier 2: comply with AB32 GHG reduction goals; include emissions estimates agreed upon by either CARB or the SCAQMD, have been analyzed under CEQA, have a certified Final CEQA document; include a GHG emissions inventory tracking mechanism; and include a process to monitor progress in achieving GHG emission reduction targets, and a commitment to remedy the excess emissions if GHG reduction goals are not met (enforcement). Thus, Tier 2 no longer applies, so it is necessary to consider the next tier.

Tier 3 – 90 Percent Capture Rate Emission Thresholds. A 90 percent emission capture rate means that 90 percent of total emissions from all new or modified projects would be subject to CEQA analysis. As stated in the thresholds document, the 90 percent emission capture rate is appropriate to address long-term adverse impacts associated with global climate change, and would capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth. For Tier 3, the SCAQMD presents lead agencies with two options: option #1 – separate numerical thresholds for residential projects (3,500 metric tons of CO_2e, or $MTCO_2$e, per year), commercial projects (1,400 $MTCO_2$e per year), and mixed use projects (3,000 $MTCO_2$e per year) and; option #2 – a single numerical threshold for all non-industrial projects of 3,000 $MTCO_2$e per year (SCAQMD, 2010).

Tiers 4 and 5. These tiers are not relevant to the analysis and so will not be discussed.

Because the proposed project is considered most like the "commercial" or "non-industrial" category, the 1,400-$MTCO_2$e per year SCAQMD threshold discussed for Tier 3 was selected as the most conservative numerical threshold.

Construction Emissions

The proposed project will include demolition, grading, paving, and erection of a 4,000-square-foot, one-story community building, parking, and landscaping. Each construction phase involves the use of a different mix of construction equipment and therefore has its own distinct GHG emissions characteristics. Since detailed design information was not available at the time this document was prepared, construction-related emission estimates were based on the default construction scenario information in CalEEMod, Version 2013.2.1 (EIC, 2013). Estimates of the types and numbers of pieces of equipment anticipated in each phase of construction and development were based on equipment requirements of similar construction projects. GHG emissions will vary from day to day depending on the intensity and type of construction activity.

Project construction emissions were estimated using the construction module of CalEEMod. Construction of the proposed project (including demolition of existing structures) is estimated to begin in Fall 2014, and expected to last for 15 months. The construction equipment GHG emissions were modeled using CalEEMod's default values for horsepower and load factors, which are from the CARB's OFFROAD2011 model.

Additionally, assuming the air compressor used in the architectural coating phase of the proposed project is not electric-powered, there will be no indirect source emissions of GHG.

Operational Emissions

GHG emissions from space heating with natural gas were modeled with CalEEMod, assuming the "single family housing" land use, which most closely fits the description of the proposed project. The default factors for Title 24 natural gas standards were used.

Solid waste disposal into landfills creates CO_2 and CH_4 emissions over a span of years. The emissions from solid waste were calculated using CalEEMod, which models the GHG emissions based on the Intergovernmental Panel on Climate Change's (IPCC) methods for quantifying GHG emissions from solid waste (IPCC, 2006).

Calculation of indirect GHG emissions for water use was based on the electricity needed to supply and distribute water. The factors for electricity are based on Title 24, non-Title 24, and lighting standards from the California Energy Commission (CEC, 2008). CalEEMod assumes defaults based on the project location, climate zone, and energy provider. All the default values were used.

Greenhouse Gas Analysis

Table 4.7-1: Utilities GHG Emissions shows the indirect GHG emissions from electricity, water, natural gas, and solid waste consumption.

Table 4.7-1
UTILITIES GHG EMISSIONS

Utility	GHG Emissions (tonnes/year)			
	CO_2	CH_4	N_2O	CO_2e
Proposed Project (2016)				
Electricity	17.00	0.00	0.00	17.10
Water	17.93	0.00	0.00	18.16
Natural Gas	4.62	0.00	0.00	4.65
Solid Waste	0.82	0.05	0.00	1.84
Totals	**40.37**	**0.05**	**0.00**	**41.75**

Source: UltraSystems Environmental Inc. with CalEEMod (Version 2013.2.1)

A detailed breakdown of the results of the GHG emissions analysis can be found in **Table 4.7-2:** Annual GHG Emissions, 2016 and Beyond.

Table 4.7-2
ANNUAL GHG EMISSIONS, 2016 AND BEYOND

Annual Emissions in 2014 (tonnes/year)					
Emission Source		CO_2	CH_4	N_2O	CO_2e
Construction[a]		13.81	0.00	0.00	13.88
Operations	Area	0.00	0.00	0.00	0.00
	Energy	21.62	0.00	0.00	21.75
	Mobile	195.77	0.01	0.00	195.94
	Waste	0.82	0.05	0.00	1.84
	Water	17.93	0.00	0.00	18.16
	Totals	**249.95**	**0.06**	**0.00**	**251.57**
SCAQMD Interim CEQA GHG Significance Threshold					**1,400**
Significant (Yes or No)					**No**
Note: Proposed project is expected to be operational in early 2016.					
[a] Amortized over 30 years per SCAQMD Interim CEQA GHG Significance Threshold.					

Source: UltraSystems Environmental Inc. with CalEEMod (Version 2013.2.1)

Table 4.7-2 shows that the maximum annual emissions from the proposed project would be 252 MTCO2e, which is less than the annual 1,400-MT CO2e SCAQMD interim threshold for commercial projects; therefore, GHG emissions from the proposed project will be less than significant.

b) Less Than Significant Impact.

Although neither the County nor the City of Culver City has adopted a GHG inventory or an adopted Climate Action Plan, the CARB has developed a statewide GHG inventory to keep track of the AB32's 2020 target of reaching 1990 levels of CO_2. The latest report covers 2000 through 2009. In 2009, the total statewide GHG emissions were 457 million $MTCO_2e$ ($MMTCO_2e$). Including the influence of sinks such as CO_2 flux from forestry, the net emissions were 453 MMT CO_2e (CARB, 2011). The total GHG emissions in 2009 represent a 5.5 percent increase from 1990 to 2009.

Since the proposed project generates annual GHG emissions of 252 $MTCO_2e$, which is less than the SCAQMD's Interim Threshold of 1,400 $MTCO_2e$, the project would not conflict with AB32.

Additionally, 252 $MTCO_2e$ represents 0.00006% percent of the statewide GHG inventory. Therefore, the proposed project will have a less than significant impact.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
4.8 Hazards and Hazardous Materials				
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

Impact Analysis

a) Less than Significant Impact.

Demolition of existing structures and construction of the Stoneview Nature Center could potentially require the use of hazardous materials, including vehicle fuels, oils, transmission fluids, solvents and architectural coating substances, and the generation of asbestos containing materials (ACM) and materials containing lead-based paint (LBP) (see **Appendix E**). During construction, standard protocols would be adopted to minimize the risk associated with hazardous materials and wastes. After construction, unused hazardous materials may be properly transported for use at other projects. Hazardous wastes may be properly disposed at licensed facilities, or recycled to minimize wastes requiring disposal. The proposed project operation would use common, everyday hazardous materials such as cleaning products (floor and antiseptic cleaners) and landscaping products (fertilizers, pesticides, and herbicides) that may be hazardous if improperly used or ingested. These products have a low incidence of unsafe use. Materials that may be used during construction and operation are not acutely hazardous. Transportation, storage, use, and disposal of hazardous materials and wastes are regulated by the Department of Toxic Substances Control (DTSC), the United States Environmental Protection Agency (USEPA), and the California Occupational Safety and Health Administration (Cal-OSHA). The proposed impact to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment will be less than significant.

b) Less than Significant With Mitigation.

Dabney Lloyd No. 3 Oil Well was drilled within the northwest portion of the subject property in 1938, and is currently located beneath the northern-most masonry building. Oil fields are often associated with waste disposal pits commonly impacted with petroleum hydrocarbons, metals and oil field wastes (UltraSystems, 2009). Prior to construction of the existing masonry buildings in 1956, imported fill was placed across the site to depths between 17 and 23 feet (AMEC, 2012). For this reason, soils impacted with oil drilling waste between 1928 and 1947, if any, occur beneath the fill, and would not be encountered during construction and operations within the proposed project site. After demolition of the existing buildings, Dabney Lloyd No. 3 Oil Well will be re-abandoned by the operator (Chevron USA) according to California Division of Oil, Gas, and Geothermal Resources requirements. Re-abandonment of Dabney Lloyd No. 3 Oil Well would reduce impacts involving the accidental release of hazardous conditions to less than significant.

The Chevron Pipeline Company (CPL) operates a six-inch diameter gasoline pipeline that traverses the site in a north-south direction approximately two feet below the ground surface. The buried pipeline location is marked near the property boundaries, and is shown in **Figure 4.6-**1. CPL operates the pipeline in compliance with U.S. Department of Transportation Pipeline and Hazardous Material Safety Administration and the Office of State Fire Marshal Pipeline Safety Division requirements. Construction and operation activities at the Stoneview Nature Center would comply with "general specifications for buried lines" established for construction near CPL underground pipelines. Mitigation measures HHM-MM-1 and HHM-MM-2 adopt CPL "general specifications for buried lines" to reduce accident conditions involving the release of hazardous conditions to less than significant.

Methane gas may accumulate in surface soils above oil fields, and near active or abandoned oil and gas wells. Three types of gases may exist within the geologic and soil units underlying the active surface of the Inglewood Oil Field: (1) biogenic (swamp or sewer) gas; (2) thermogenic (field) gas; and, (3) processed natural (or piped) gas. Thermogenic gas is generated at depth when increased temperatures and pressures alter organic material to form gases. Similar to biogenic gas, thermogenic gas contains a broad range of gas components including methane, ethane, propane, butane, and trace amounts of hydrogen sulfide. Activities at the Inglewood Oil Field produce oil and associated thermogenic gas, and FM O&G has established 94 grids within the Inglewood Oil Field for methane testing in soils (FM O&G, 2014).

Due to the probability of methane gas releases from naturally occurring thermogenic and biogenic sources, the City of Los Angeles has established a zoning ordinance identifying two zones: Methane Zone and Methane Buffer Zone. The Stoneview Nature Center is not in the City of Los Angeles, and therefore is not included on the City of Los Angeles methane map. However, the Stoneview Nature Center occurs above the Inglewood Oil Field, and may contain elevated methane levels in subsurface soils.

Methane gas is less dense than atmospheric gases, and has a natural tendency to rise to the ground surface. Methane usually dissipates into the atmosphere, but may accumulate beneath floor slabs and other low permeability barriers. An explosive hazard may occur where methane accumulates at concentrations above 50,000 (lower explosive limit) to 150,000 (upper explosive limit) parts per million (ppm) in the presence of oxygen and an ignition source. County required methane gas testing and mitigation requirements provide a significant level of safety for new construction. If needed, methane mitigation project design features (PDFs), such as sub-slab vent lines, will be included in the floor slab or other structure design according to County Department of Public Works-Building and Safety Department (DPW-BSD) requirements so that potential explosive hazards associated with methane gas will be less than significant.

Mitigation Measures:

HHM-MM-1: General Specifications for Buried Lines

- Buried lines must cross the right-of-way at an angle measured between the proposed buried line and the right-of-way that is not less than 45 degrees.

- Buried lines should cross under Chevron Pipeline Company (CPL) pipelines unless impractical because of underground structures, heavy rock, or extreme depth of the CPL pipeline, and if the CPL Field Team Leader or designee grants approval for lines to cross over CPL pipelines.

- • Buried lines and structures must not exceed the special case clearances specified by the Department of Transportation (DOT) in 49 Code of Federal Regulations (CFR) §195.250 for liquid lines and 49 CFR § 192.325 for gas lines. For this reason, buried lines crossing CPL pipelines must maintain a minimum separation of 24 inches between the outer edges of the two lines. A vinyl buried warning tape must be placed 12 to 18 inches above the buried line, and extend across the entire width of the CPL right-of-way.

- Backfill bedding material used at pipeline crossings must: (1) be protective of existing pipeline coatings, and (2) be composed of rock free native soil or selected bedding material. Bedding material must be compacted to 95% of standard proctor density by hand methods (vibratory plate or hand whacker) between the new line and CPL pipeline. The above pipe material may be rock-free native materials and must be compacted to 90% of standard proctor density. Beneath roadways or parking areas, the above pipe material must be compacted to 95% of standard proctor density. Backfill must meet the requirements of DOT 49 CFR 195.252. No cement slurry is allowed within 12 inches of CPL pipelines.

- Signs must be placed at each edge of the right-of-way to mark the underground line structure. When sign installation is not practical, the CPL Field Team Leader may waive the signage requirement.

HHM-MM-2: Encroachment Guidelines

- No structures may be constructed on, placed on or overhang the right-of-way that would limit access to CPL pipeline, and no trees are permitted within the right-of-way.

- Fences parallel to the CPL pipeline are not permitted within the right-of-way. Fences crossing the right-of-way must allow access to the CPL pipeline, and must identify the pipeline location beneath the fence.

- Street, road and railroad crossings may be allowed on the right-of-way provided that proper cover is maintained[18]. CPL must be given the opportunity to inspect the pipe, coating or bedding prior to the construction of a street, road or railroad crossings. Consultation with CPL Technical Services may be necessary when pipeline lowering or relocation is a probability.

- Private driveways crossing the right-of-way require a minimum cover of 3.5 feet from the top of the pipeline, unless approved otherwise by CPL Technical Services.

- Construction equipment may cross the pipeline only where CPL has checked the cover, has determined adequacy to meet load-bearing requirements, and has approved the crossing location.

- Whenever blasting is necessary near CPL pipeline facilities, consultation must be obtained with CPL Technical Services or an approved blasting consultant to determine controls necessary to protect CPL facilities.

HHM-MM-3: Field sampling will be conducted within the 4,000-square-foot footprint of the Stoneview Nature Center to assess near surface methane concentrations, if any, according to requirements established in Section 110.3 and Section 110.4 of the County of Los Angeles Building Code.

c) No Impact.

No existing or proposed schools are within 0.25 mile of the project site. The nearest schools to the project site include Village Tree Preschool, approximately 0.8 mile northwest, Baldwin Hills Elementary School, approximately 0.9 northeast, and Willows Community School, approximately 0.6 miles northwest. The proposed project would have no impact to existing or proposed schools within 0.25 mile of the project site.

d) No Impact.

The proposed project is not on a Government Code § 25187.5 list. Hazardous waste facilities identified in Health and Safety Code (HSC) § 25187.5 are those where the Department of Toxic Substances Control (DTSC) has taken or contracted for corrective action because: (1) a facility owner/operator has failed to comply with a corrective action order issued under HSC § 25187, or (2) DTSC determined that immediate corrective action was necessary to abate an imminent or

18 Refer to DOT 195.548, 195.210 and 192.327 for depth of cover requirements.

substantial endangerment. None of these sites were identified within one mile of the proposed project. Government Code § 25187.5 sites will have no impact on the proposed project.

e) No Impact.

The proposed project site is not located within two miles of a public airport or public-use airport, and is not located within an airport land use plan. The closest public-use airport is the Santa Monica Municipal Airport, located more than four miles west-northwest of the project site. The proposed project would not result in a safety hazard for people residing or working in the project area due to a public airport or public use airport.

f) No Impact.

The proposed project site is not located within the vicinity of a private airstrip. A private airstrip or private airports are facilities are used for operations of privately owned aircrafts, and are not used by commercial air traffic. The proposed project would not result in a safety hazard for people residing or working in the project area due to a private airstrip or private airport.

g) Less than Significant Impact.

During construction, material and equipment would be stored and staged onsite so as not to interfere with emergency response vehicles that use major thoroughfares or access roads. Project development and operation plans will be submitted to the City of Culver City Fire Department and the Los Angeles County Fire Department for review and approval to ensure that adequate emergency access is provided during project operation. The proposed project will have a less than significant impact on the local emergency response or emergency evacuation plan.

h) Less than Significant Impact.

The proposed project is an urban development outside areas designated as a Very High Fire Hazard Severity Zone. These zones are identified by the California Department of Forestry and Fire Protection as areas with wildlands, vegetation and buildings susceptible to fire during the next 30 to 50 years. Smoking and fireworks will be prohibited from the project site and violators will be prosecuted pursuant to §§ 9.02.205, 9.10.055, 9.11.115, 9.11.120, and 9.11.130 of the Culver City Municipal Code. Therefore, the proposed project will have a less than significant risk of loss, injury, or death as a result of exposure to wildland fires.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
4.9 Hydrology and Water Quality				
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alternation of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Impact Analysis

a) Less Than Significant Impact.

Construction activities may contribute to erosion, sediment-laden runoff, discharge of non-storm water runoff, or other water quality–related events that could potentially violate water quality standards or waste discharge requirements. Prior to construction, a Notice of Intent (NOI) will be uploaded to the State Water Resources Control Board (SWRCB) Storm Water Multi-Application and Report Tracking System (SMART), and a project-specific Storm Water Pollution Prevention Plan (SWPPP) will be prepared. The proposed project would implement best management practices (BMPs) specified in the SWPPP to reduce or eliminate sediment and potential pollutants in runoff and non-storm discharges in accordance with the General NPDES permit.

Post-construction designs will conform to the Los Angeles County Department of Public Works (LACDPW) Standard Urban Storm Water Mitigation Plan (SUSMP), which specifies necessary BMPs for post-construction features. BMPs are selected to ensure that post-construction peak storm water runoff discharge rates do not exceed pre-development rates for developments where the increased peak storm water discharge rate would result in increased potential for downstream erosion. Any project submitted to the County for review and approval is subject to the requirements of the SUSMP. Implementation of construction and post-construction BMPs would reduce or eliminate potential violations of water quality standards or waste discharge requirements to less than significant.

b) No Impact.

Groundwater was encountered beneath the project site approximately 72 to 78 feet below the ground surface in 2010. The proposed project is within the Baldwin Hills, which is a barrier to groundwater flow. Perched and/or artesian water groundwater conditions could exist at the site due to the presence of local faults (AMEC, 2012). No use of groundwater supplies is proposed, no adverse impacts to groundwater recharge will occur, and the level of the local groundwater table will not be affected by construction or operation activities. No impact to groundwater supplies or recharge is expected.

c) Less Than Significant Impact.

There are no streams or rivers in the vicinity of the site. Drainage and erosion BMPs during and after construction would be specified in the proposed project-specific SWPPP so that post-construction discharge would be consistent with or less than pre-construction discharge volumes. The proposed project would not substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site. A grading plan showing existing and proposed contours, and drainage features for the project, will be submitted to Los Angeles County for approval prior to project construction.

d) Less Than Significant Impact.

There are no streams or rivers in the vicinity of the site. Drainage and erosion BMPs during and after construction would be specified in the proposed project-specific SWPPP so that post-construction discharge should be consistent with pre-construction discharge volumes. The proposed project would be constructed in accordance with building code requirements so that drainage for the proposed project would be designed to direct runoff from impervious areas to existing drainage features and storm drains. The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alternation of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

e) Less Than Significant Impact.

Runoff from impervious areas, including parking areas, would be directed to existing drainage features and storm drains. BMPs during and after construction would be specified in the proposed project-specific SWPPP so that post-construction discharge would be consistent with or less than pre-construction discharge volumes. Construction and post-construction BMPs identified in the SWPPP would reduce pollution, if any, to less than significant levels. The project will not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

f) Less Than Significant Impact.

BMPs used during and after construction would be specified in the proposed project-specific SWPPP. Post-construction discharge would be consistent with or less than pre-construction discharge volumes. For this reasons, construction and post-construction BMPs identified in the SWPPP will reduce pollution, if any, to less than significant levels.

g) No Impact.

The proposed project is not within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map or other flood hazard delineation map. No housing will be placed within a 100-year flood hazard area.

h) No Impact.

The proposed project is not within a 100-year flood hazard area. No structures will be placed within a 100-year flood hazard area.

i) No Impact.

The proposed project is not within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map or other flood hazard delineation map. For this reason, the proposed project would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

j) No Impact.

A seiche is a periodic oscillation of a landlocked body of water, such as a lake. A tsunami is a high-energy ocean wave caused by rapid vertical displacement(s) of the ocean bottom during an earthquake with the potential to inundate low-lying areas several miles from the coast. A mudflow is a moving mass of soil, rock and water caused by loss in soil cohesion, generally from saturated ground conditions. The proposed project does not contain a surface water body, is 5.7 miles from the Pacific Ocean at an elevation of approximately 240 feet above mean sea level, and does not contain sufficient soil mass at higher elevations to be susceptible to mudflows. For these reasons, no impacts would occur from inundation by seiche, tsunami or mudflow.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
4.10 Land Use and Planning				
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

<u>Impact Analysis</u>

a) No Impact.

The project site is surrounded by a single-family residential community to the north and northeast, open space to the west, and the active Inglewood Oil Field to the south and southeast. Construction and operation of the proposed project would not physically divide an established community because it would be located on a previously developed site. Access to the single-family residential community to the north and northeast would remain the same and residents would not have to change their ingress and egress routes. The proposed Stoneview Nature Center would not physically divide an established community.

b) Less Than Significant Impact.

The project site is within the area covered by the Culver City General Plan. However, because the property would be owned by the County, the Stoneview Nature Center would not be under the jurisdiction of the Culver City General Plan or city zoning.

The northern portion of the property is designated by Culver City as Low Density Single Family, and the southern portion is designated Open Space (**Figure 4.10-1**). The Low Density Single Family designation is consistent with existing single family neighborhoods, and is intended to protect their existing densities and character. The Open Space designation is established to preserve and encourage future parks, open space and recreation opportunities. The project is within an area zoned for R1 Residential Single Family (**Figure 4.10-2).**

The proposed project is consistent with a Public Recreational and Cultural Facility as defined by § 17.700.010 of the Culver City Zoning Code. **Table 2-2** of § 17.210.015 specifies that Public Recreational and Cultural Facilities are an acceptable use in the R1 District. The proposed project will not conflict with land use plans, policies, or regulations. Culver City has indicated that the proposed Stoneview Nature Center conforms with the Culver City General Plan (City of Culver City,

2013) as a result of the County and City consultation required by California Government Code § 65402.

c) No Impact.

The project site is not within the jurisdiction of a habitat conservation plan or natural community conservation plan.

Figure 4.10-1
GENERAL PLAN LAND USE MAP

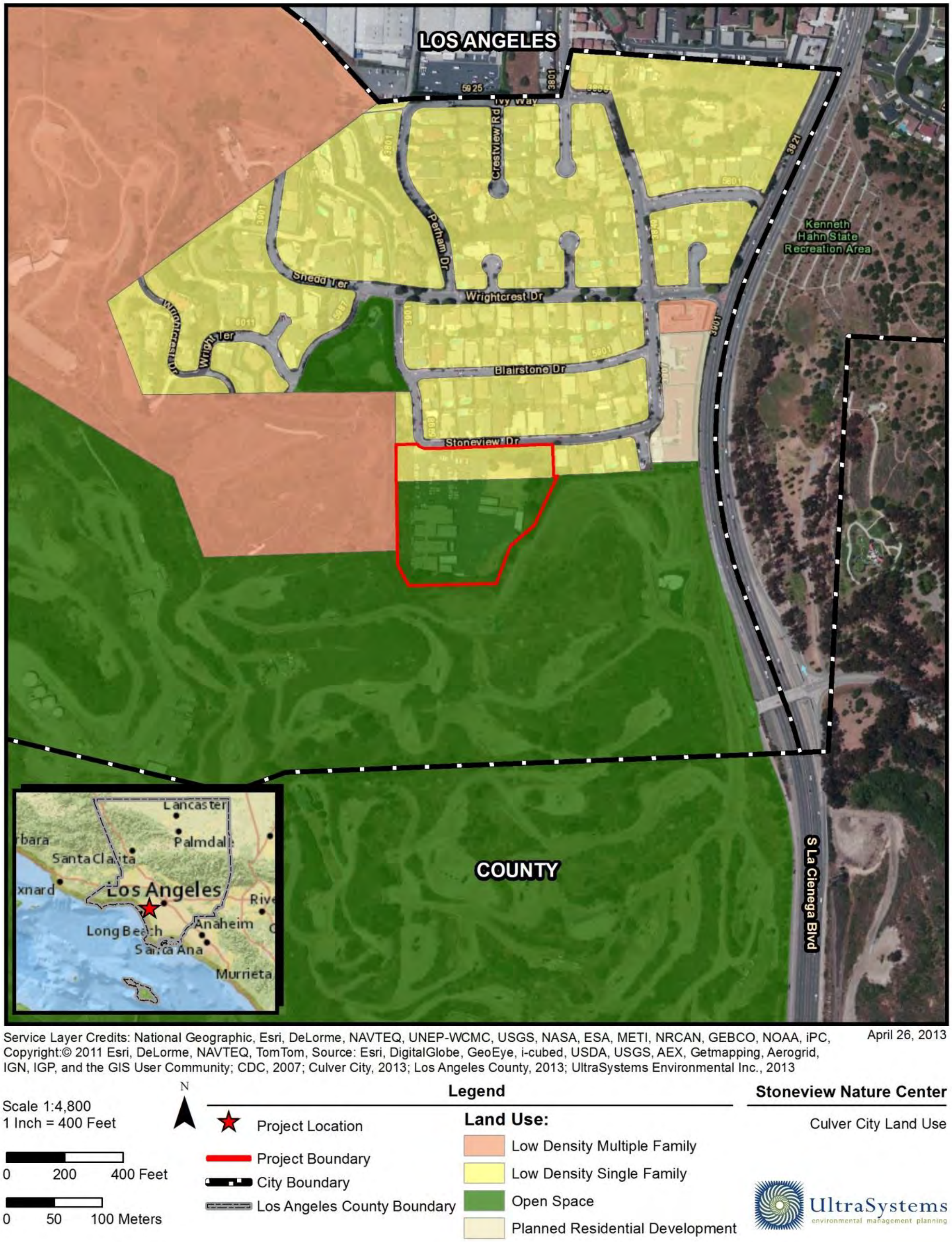
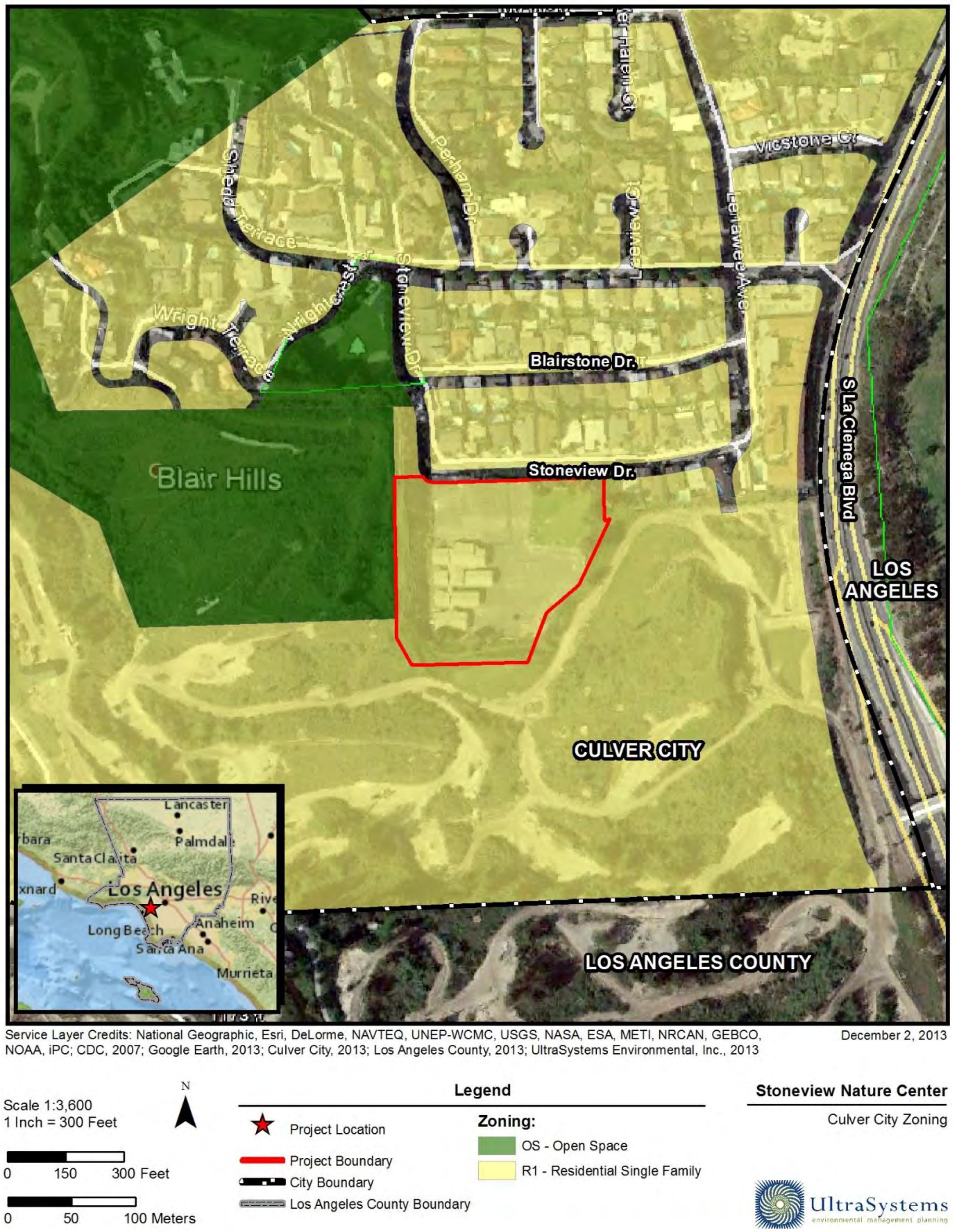


Figure 4.10-2
ZONING MAP



	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
4.11 Mineral Resources				
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒	☐

Discussion:

a) No Impact.

The Stoneview Nature Center is within the Mineral Rights Boundary and Field Boundary of the Inglewood Oil Field delineated by the California Department of Conservation Division of Oil, Gas & Geothermal Resources (**Figure 4.11-1**). A non-metallic mineral processing plant is approximately three miles southeast of the project site (**Figure 4.11-2**). No other known mineral resources occur within 500 feet of the project site. The proposed project will not utilize, or result in an impact to the availability of, known oil and gas or other mineral resources of value to the region and residents of the state.

b) Less Than Significant.

Culver City has drafted regulations for "Oil and Gas Drilling for the Culver City Portion of the Inglewood Oil Field." If adopted by the Culver City Council, oil and gas drilling would not be permitted with 400 feet of developed areas except at the discretion and approval of the Culver City Community Development Director if it can be determined that the reduction in the 400-foot setback will not be detrimental to public health, safety or general welfare.[19] Freeport-McMoRan Oil & Gas (FM O&G), the Operator of the 1,000-acre oilfield, estimates that approximately 50% of the field's reserves are recoverable using current technology, and anticipates that oil and gas drilling and production will continue in the future. If the proposed regulations are adopted as drafted, oil and gas drilling may occur within 400 feet of the Stoneview Nature Center at the discretion and approval of the Culver City Community Development Director. The Stoneview Nature Center would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

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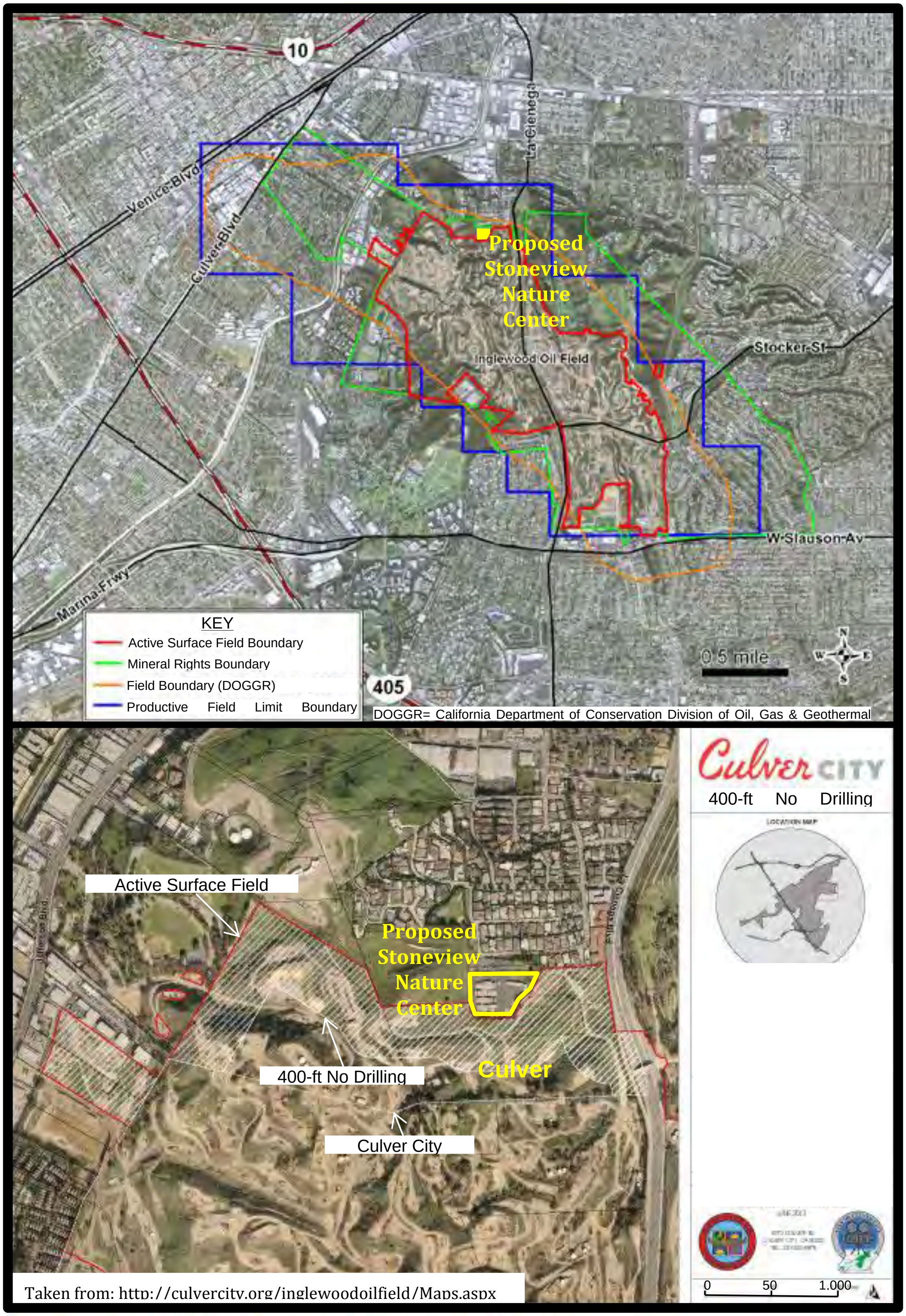
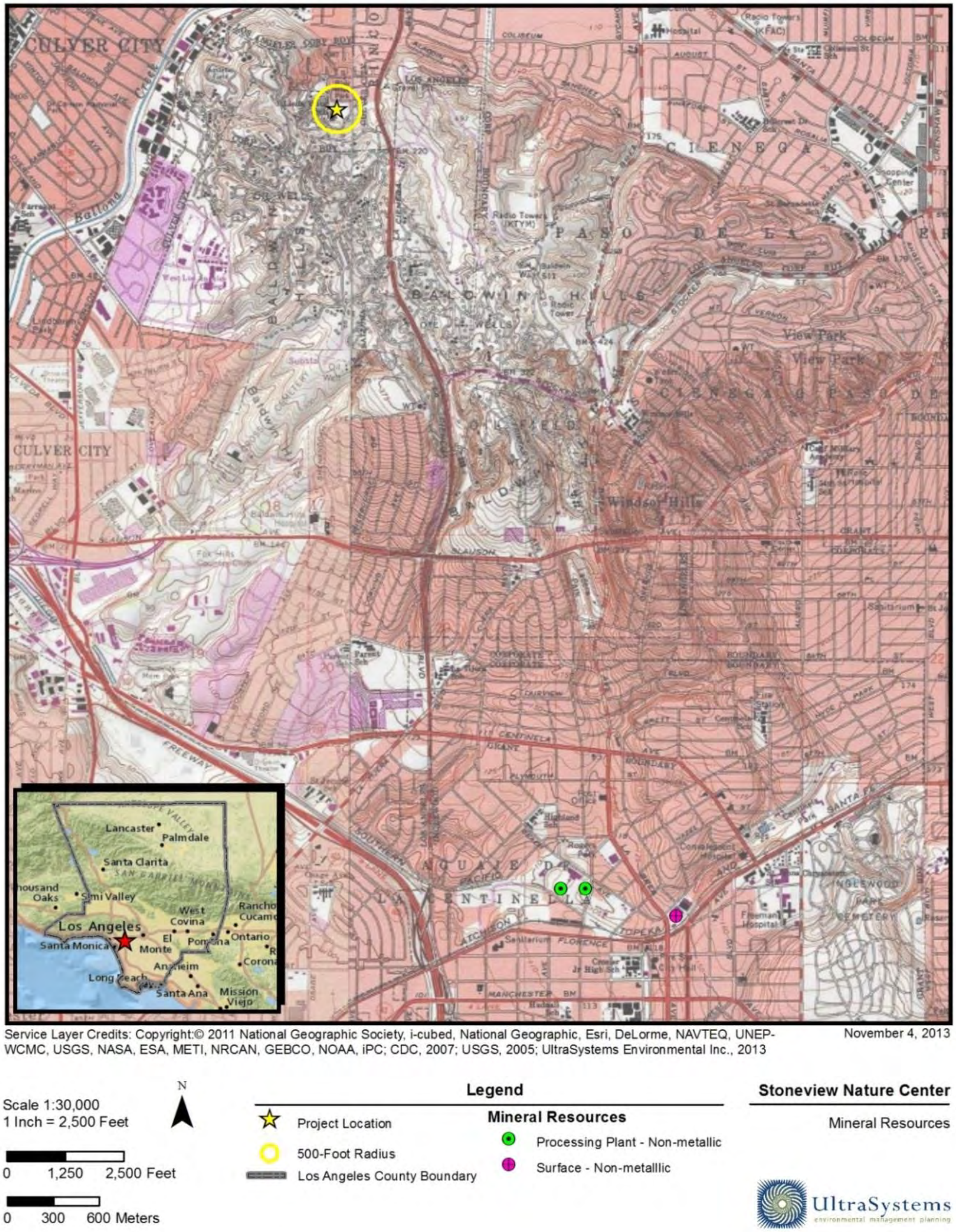
19 http://www.culvercity.org/~/media/Files/InglewoodOilField/Discussion%20Draft%20Oil%20Drilling%20Regulations_04-09-13.ashx. (Section 21.J.1). Accessed November 30, 2013.

Figure 4.11-1
INGLEWOOD OIL FIELD



Taken from: http://culvercity.org/inglewoodoilfield/Maps.aspx

Figure 4.11-2
MINERAL RESOURCES IN VICINITY OF PROJECT SITE



		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
4.12	**Noise**				
Would the project result in:					
a)	Exposure of persons to or generation of noise level in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

Background

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. The decibel (dB) scale is used to quantify sound intensity. Because sound pressure can vary by over one trillion times within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level. Since the human ear is not equally sensitive to all frequencies within the entire spectrum, noise measurements are weighted more heavily within those frequencies of maximum human sensitivity in a process called "A-weighting," written as dBA.

Sound is recorded among several factors. One such factor is the "equivalent continuous noise level" (L_{eq}), a measure of sound energy averaged over a period of time. It is referred to as the equivalent continuous noise level because it is equivalent to the level of a steady sound, which, over a referenced duration and location, has the same A-weighted sound energy as the fluctuating sound. L_{eq} for periods of one hour, during the daytime or nighttime hours, and 24 hours are commonly used in environmental assessments.

Another factor is the "Community Noise Equivalent Level" (CNEL). CNEL is a noise measurement system introduced by the State, with particular emphasis on airport noise. CNEL can be measured using ordinary dBA readings and it is the measure of the weighted-average noise environment over a 24-hour period, with the weights accounting for the lower tolerance of people to noise during evening and nighttime periods relative to the daytime period. Residential development within the State is generally discouraged in the 60-65 dBA CNEL noise range.

When evaluating community noise levels, a 3-dBA increase over 24 hours is barely perceptible to most people; a 5-dBA increase is readily noticeable; and a 10-dBA increase is perceived as a doubling of loudness.

Ambient Noise Monitoring

On April 29, 2013, UltraSystems conducted ambient noise sampling at four locations in the general project area. **Table 4.12-1**: Characteristics of Ambient Noise Measurement Locations lists the measurement sites, sampling dates and times, and why each site was chosen. These locations are shown in **Figure 4.12-1:** Ambient Noise Measurement Locations.

Table 4.12-1
CHARACTERISTICS OF AMBIENT NOISE MEASUREMENT LOCATIONS

Site	Sampling Location	Date	Time Interval[a]	Purpose of Selection
1	Latitude: 34.01438°N Longitude: 118.37627°W	04-29-13 Monday	1343-1358	At project site
2	Latitude: 34.01492°N Longitude: 118.37624°W	04-29-13 Monday	1416-1431	Residence directly across from project site
3	Latitude: 34.01622°N Longitude: 118.37474°W	04-29-13 Monday	1458-1513	Existing intersection (Wrightcrest Drive and Lenawee Avenue) leading to Stoneview Drive
4	Latitude: 34.01807°N Longitude: 118.37577°W	04-29-13 Monday	1531-1546	Existing intersection (Ivy Way and Lenawee Ave.) leading to Stoneview Drive

[a] Time differs from times in Appendix F by one hour due to Daylight Savings Time adjustment.

Figure 4.12-1
AMBIENT NOISE MEASUREMENT LOCATIONS

The sampling locations were chosen to provide an exposure baseline for evaluation of construction and operational impacts. Another selection criterion was that they be as close as practicable to the proposed project site or roadways where traffic is estimated to increase due to the proposed project.

A Quest SoundPro Model DL-1-1/3 sound level meter was used in the "slow" mode at each site to obtain a 15-minute average sound level (L_{eq}), as well as other metrics. The meter's microphone was maintained 5 feet above the ground. One sample was taken at each measurement site during the evening peak hour on a weekday.

Table 4.12-2: Measured Ambient Noise Levels shows the results of the ambient noise sampling. L_{eq} was defined above. L_{max} is the maximum noise reading during the sampling period. L_{90} is a noise level that is exceeded 90 percent of the time at a given location; it is often used as a measure of "background" noise.

Table 4.12-2
MEASURED AMBIENT NOISE LEVELS

Site	Measurement Results (dBA)		
	15-Minute L_{eq}	L_{max}	L_{90}
1	54.0	65.7	49.7
2	52.5	74.0	46.1
3	63.3	81.3	51.9
4	62.5	85.6	45.4

Federal Regulations

The U.S. Department of Housing and Urban Development has set a goal of 45 dBA L_{dn} as a desirable maximum interior standard for residential units developed under HUD funding (HUD, 1985). While HUD does not specify acceptable exterior noise levels, standard construction of residential dwellings constructed under Title 24 of the California Code of Regulations typically provides 20 dBA of acoustical attenuation with the windows closed and 10 dBA with the windows open. Based on this assumption, the exterior L_{dn} or CNEL should not exceed 65 dBA under normal conditions.

State Regulations

The California Department of Health Services (DHS) Office of Noise Control has studied the correlation of noise levels with effects on various land uses. (The Office of Noise Control no longer exists.) The most current guidelines prepared by the state noise officer are contained in the "General Plan Guidelines" issued by the Governor's Office of Planning and Research in 2003 (State of California, 2003). These guidelines establish four categories for judging the severity of noise intrusion on specified land uses:

- **Normally Acceptable**: Is generally acceptable, with no mitigation necessary.

- **Conditionally Acceptable**: May require some mitigation, as established through a noise study.

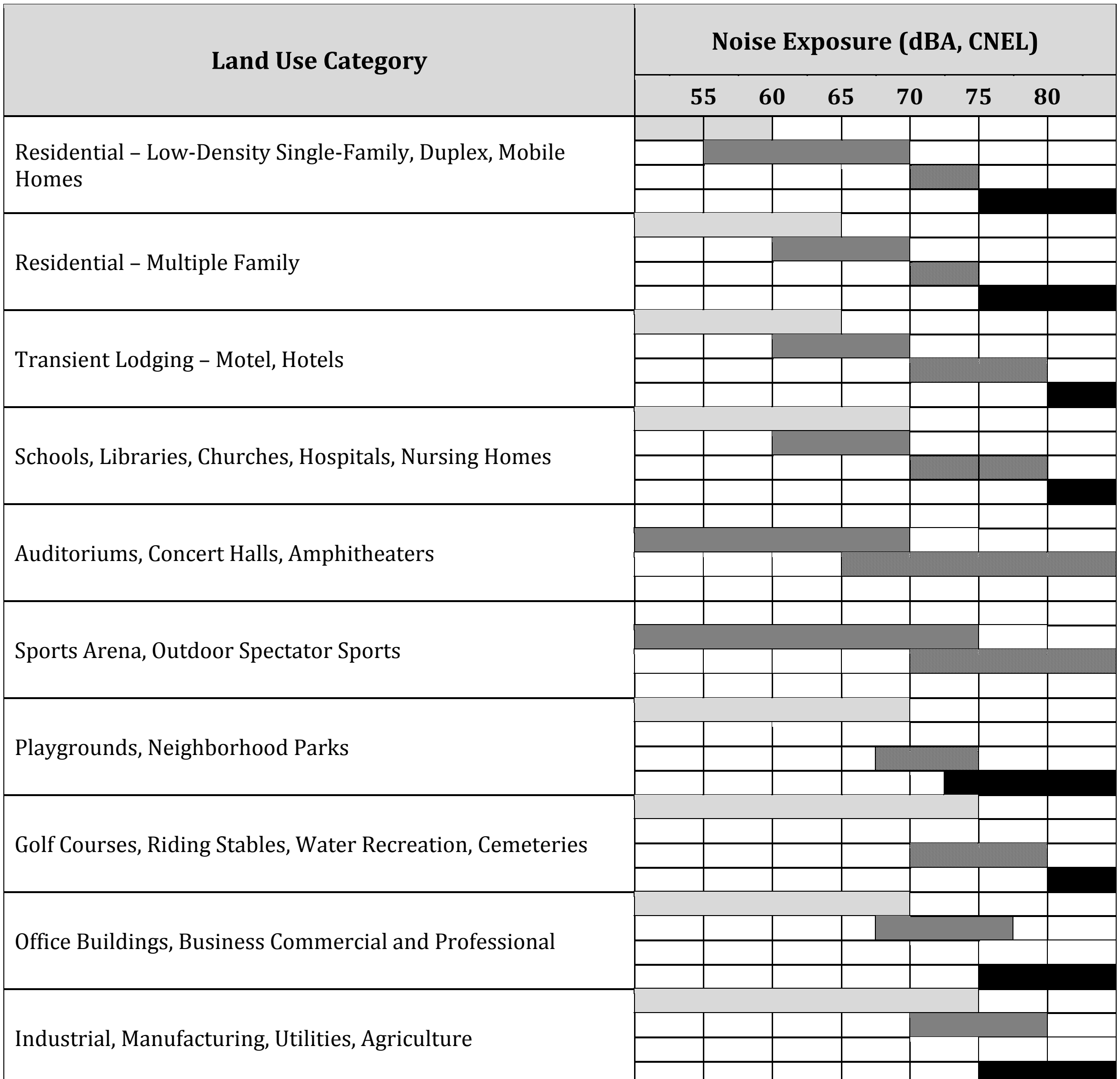
- **Normally Unacceptable**: Requires substantial mitigation.

- **Clearly unacceptable**: Probably cannot be mitigated to a less-than-significant level.

The types of land uses addressed by the state standards, and the acceptable noise categories for each, are presented in **Table 4.12-3**: Land Use Compatibility for Community Noise Sources. There is some overlap between categories, which indicates that some judgment is required in determining the applicability of the numbers in every situation.

Title 24 of the California Code of Regulations requires performing acoustical studies before constructing dwelling units in areas that exceed 60 dBA L_{dn}. In addition, the California Noise Insulation Standards identify an interior noise standard of 45 dBA CNEL for new multi-family residential units. (Local governments frequently extend this requirement to single-family housing.)

Table 4.12-3
LAND USE COMPATIBILITY FOR COMMUNITY NOISE SOURCES



Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply system or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: State of California, 2003.

Culver City Noise Standards

Because the primary sensitive noise receivers for this project are residences in Culver City, the noise standards of that city guided the analysis. The primary regulatory documents that establish noise standards within Culver City are the Culver City Municipal Code (Culver City, 2011), and the City's *General Plan, Noise Element* (Culver City, 1996). These documents, as they pertain to noise standards and laws, are discussed in the following subsections. The code has no established general noise standards, with the exception of construction timing. The noise element has established the following noise design standards shown in **Table 4.12-4**: Culver City Exterior Sound Level Design Standards.

Table 4.12-4
CULVER CITY EXTERIOR SOUND LEVEL DESIGN STANDARDS

Land Use Type	dBA, CNEL
Residential	65
Commercial	75[a]

Source: Sound level standards from Culver City General Plan, Noise Element, p. N-22.
[a] Determined by adding 20 dBA to interior design standard CNEL.

According to § 9.07.035 of the Municipal Code, construction activity shall be prohibited, except between the hours of:

- 8:00 a.m. and 8:00 p.m. Mondays through Fridays.
- 9:00 a.m. and 7:00 p.m. Saturdays.
- 10:00 a.m. and 7:00 p.m. Sundays.

The noise technical report is provided in **Appendix F**.

Impact Analysis

a) Less Than Significant Impact With Mitigation.

Construction Effects

The construction of the Proposed Project could generate noise levels in excess of standards adopted in local ordinances. Noise impacts from construction activities are a function of the noise generated by the operation of construction equipment and on-road delivery and worker commuter vehicles, the location of equipment, and the timing and duration of the noise-generating activities. For the purpose of this analysis, it was estimated that construction of the proposed project (including demolition of existing structures) would begin in Spring 2014, and would last for about 20 months. The types and numbers of pieces of equipment anticipated in each phase of construction and development were estimated based on equipment requirements of residential construction projects, and modeling[20] defaults, which are based on a construction survey performed by the South Coast Air Quality Management District (SCAQMD) (EIC, **Appendix D**, 2011). **Table 4.12-5**: Construction Equipment Noise Characteristics lists the equipment expected to be used. For each equipment type, the table shows an average noise emission level (in dB at 50 feet, unless otherwise specified) and a "usage factor," which is an estimated percentage of operating time that the equipment would be producing noise at the stated level.[21] The proposed project would include demolition, breakup of existing pavement, replacement with concrete, and erection of new structures. Each phase includes a different mix of construction equipment defined by a construction survey performed by the SCAQMD (EIC, **Appendix D**, 2011). Composite maximum and hourly L_{eq} values were calculated using the noise characteristics provided in **Table 4.12-5**, and methods suggested by the Federal Transit Administration (FTA, 2006).

Table 4.12-6: Maximum One-Hour Construction Noise Exposures at Nearest Sensitive Receivers shows that the worst-case construction noise calculation results in a one-hour L_{eq} of 89.3 dBA 47 feet away from the nearest sensitive receiver. If this hourly average exposure continues through the entire time interval permitted by the Municipal Code, the corresponding CNEL value would be 84.5. Note that **Table 4.12-6** accounts for all the construction equipment (two pavers, two pieces of paving equipment, and two rollers) during the paving phase of construction running at the same time, and at the edge of the proposed project site. This is a conservative estimation because realistically, not all the construction equipment would be operating at the same time, nor would all the equipment be located at the edge of the proposed project site. Although the construction noise exposures would exceed the measured ambient exterior noise levels shown in **Table 4.12-2**, and exceed the noise element standard of 65 dBA CNEL, the code has no standard for exterior or interior noise levels for sensitive receivers. The only restriction from the code is when construction can occur (refer to mitigation measure N-MM-3). Also because of the short-term nature of construction, the noise generated from construction of the proposed project will be less than significant with mitigation measures N-MM-1 through N-MM-3.

The noise reduction through N-MM-3 results from: (1) removal of three hours of construction noise from the hourly noise levels to be averaged, and (2) removal of the 4.77-dBA weighting for construction between 7:00 p.m. and 8:00 p.m.

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20 Ibid.

21 Equipment noise emissions and usage factors are from Knauer, H. et al., 2006. *FHWA Highway Construction Noise Handbook.* U.S. Department of Transportation, Research and Innovative Technology, Administration, Cambridge, Massachusetts, FHWA-HEP-06-015 (August 2006), except where otherwise noted.

Table 4.12-5
CONSTRUCTION EQUIPMENT NOISE CHARACTERISTICS

Equipment Type	No. Pieces	Maximum Sound Level (dBA @ 50 feet)	Usage Factor (%)
Air Compressors	1	78	40
Crane	1	81	16
Excavators	3	81	40
Forklift	3	65	50
Generator Sets	1	50	81
Grader	1	85	40
Paver	2	85	50
Paving Equipment	2	81	50
Pile Driver	1	99[a]	33
Roller	2	85	20
Rubber Tired Dozer	2	82	50
Tractor	3	84	40
Welders	1	74	40

Source: U.S. Department of Transportation, Research and Innovative Technology, *FHWA Highway Construction Noise Handbook*, 2006.
[a] At 23 feet using DELMAG Diesel Pile Hammer.

Table 4.12-6
MAXIMUM ONE-HOUR CONSTRUCTION NOISE EXPOSURES AT NEAREST SENSITIVE RECEIVER

Sensitive Receiver	Distance (Feet)	Maximum One-Hour L_{eq} (dBA)	Exceeds Exterior Noise Standard? (65 dBA CNEL)
Nearest Residence to Proposed Project Site	47	89.3	Yes

Source: Calculated by UltraSystems using methods suggested by the FTA.

N-MM-1: The construction contractor shall provide temporary shields and noise barriers, including sound blankets, between the areas of active construction and sensitive receivers. Noise barriers typically reduce noise levels by up to 10 dBA (FHWA, 2011). When one barrier is placed at the project fence line and another in front of the maximally exposed residence (for example by parking a semitrailer draped with sound absorbing material in front of the residence), this measure would reduce exposure to 67.8 dBA CNEL.

N-MM-2: The construction contractor shall ensure that construction equipment, fixed or mobile, is properly operating (tuned-up) and that mufflers are working adequately.

N-MM-3: Construction of the project shall only take place between 8:00 a.m. and 5:00 p.m. Monday through Friday; no construction shall take place on weekends or holidays.

Debris shall only be removed from the site between 9:00 a.m. and 4:00 p.m. Monday through Friday. By eliminating three normally permissible construction hours (5:00 p.m. to 8:00 p.m.), including one evening hour, this measure will reduce the weighted average daily exposure to less than about 65 dBA CNEL, when combined with measures N-MM-1 and N-MM-2.

Operational Effects

The analysis of the operational noise impacts considers and compares the proposed project to the 2013 baseline condition. The proposed nature center would generate noises associated with normal nature trail and nature center activities. These noise-generating activities would not be different from what are considered typical for residential land uses in the vicinity.

Other operational activities that would contribute to the noise environment would include periodic landscape maintenance activities and vehicular circulation. These sources could generate short-term intermittent or single-event noise levels between 60 dBA and 70 dBA at a distance of 50 feet from the activities. Given the short-term and intermittent nature of these activities, these noise events are not significant.

The principal noise source in the project area is traffic on local roadways. The project may contribute to a permanent increase in ambient noise levels in the project vicinity due to project-generated vehicle traffic on neighborhood roadways and at intersections. A noise impact would occur if the project contributes to a permanent increase in ambient noise levels (increase by 3 dBA CNEL or within the “normally unacceptable” or “clearly unacceptable” ranges for the affected land use in **Table 4.12-3** and **Table 4.12-4**) affecting sensitive receivers along roadways that would carry project-generated traffic.

To evaluate the effects of project-induced traffic during peak hours, noise exposures from project-related traffic were calculated for each of the three off-site ambient measurement locations (See **Table 4.12-1** and **Figure 4.12-1**). Assumptions and methods for the traffic noise calculations are described in the noise technical report in **Appendix F-1 and in Appendix F-4** . Results are shown in **Table 4.12-7**: Increases in Peak-Hour Noise Exposures Due to Project Traffic.

Table 4.12-7
INCREASES IN PEAK-HOUR NOISE EXPOSURES DUE TO PROJECT TRAFFIC

Ambient Site No.	Description	Baseline Ambient 1-hr L_{eq} dBA	Baseline Ambient + Project 1-hr L_{eq} dBA	Increase Due To Project 1-hr L_{eq} dBA
Weekday				
2	Stoneview Avenue, Across Street from Project	52.5	53.3	0.8
3	Wrightcrest Drive and Lenawee Avenue[a]	63.3	63.3	< 0.1
4	Ivy Way and Lenawee Avenue	62.5	62.5	< 0.1
Weekend				
2	Stoneview Avenue, Across Street from Project	52.5	54.1	1.6
3	Wrightcrest Drive and Lenawee Avenue[a]	63.3	63.4	0.1
4	Ivy Way and Lenawee Avenue	62.5	62.6	0.1

[a] Existing ambient noise level and project-induced traffic assumed to be the same along Wrightcrest Drive from the Lenawee Avenue intersection to La Cienega Boulevard.

The estimated increases in noise exposure during peak hours, on both weekdays and weekends, would be barely noticeable by most people. Therefore the impact from short-term traffic noise would be less than significant.

The area immediately to the south and east of the proposed project, which is a part of the Inglewood Oil Field, is leased by Freeport-McMoRan Oil & Gas (FM O&G). The Inglewood Oil Field is actively used for oil and gas exploration, production, processing, and associated activities, many of which are noise sources. Users of the proposed project would therefore potentially be exposed to noise from FM O&G's activities.

The Final Environmental Impact Report (FEIR) for the Baldwin Hills Community Standards District (Los Angeles County Department of Regional Planning 2008) addressed the issue of noise impacts for oilfield operations. It recognized that certain oilfield operations had the potential for a significant impact on sensitive receivers around the perimeter of the Inglewood Oil Field. The FEIR contains mitigation measures whose implementation would prevent oilfield-related noise levels to cause an increase of more than 5 dBA over baseline levels at the property lines of neighboring land uses. With implementation of those mitigation measures, the impact on users of the proposed project would be less than significant.

b) Less Than Significant Impact With Mitigation.

Vibration is sound radiated through the ground. Groundborne noise is the rumbling sound caused by the vibration of building interior surfaces. The ground motion caused by vibration is measured as peak particle velocity (PPV) in inches per second and is referenced as vibration decibels (VdB). Typical outdoor sources of perceptible groundborne vibration are construction equipment and traffic on rough roads.

Construction Vibration Effects

It is expected that groundborne vibration from project construction activities would cause only intermittent, localized intrusion. The proposed project's construction activities most likely to cause vibration impacts are:

- Heavy Construction Equipment: Although all heavy, mobile construction equipment has the potential of causing at least some perceptible vibration while operating close to buildings, the vibration is usually short-term and is not of sufficient magnitude to cause building damage.

- Trucks: Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes almost always eliminates the problem.

The American National Standards Institute (ANSI) indicates that vibration levels in critical care areas, such as hospital surgical rooms and laboratories, should not exceed 0.2 inch per second of PPV (ANSI, 1983). The FTA also uses a PPV of 0.2 inch per second as a vibration damage threshold for fragile buildings and a PPV of 0.12 inch per second for extremely fragile historic buildings. The FTA criteria for infrequent groundborne vibration events (less than 30 events per day) that may cause annoyance are 80 VdB for residences and buildings where people normally sleep, and 83 VdB for institutional land uses with primarily daytime use (FTA, 2006).

The FTA has published standard vibration levels for construction equipment operations, at a distance of 25 feet (ANSI, 1983). The calculated vibration levels expressed in VdB and PPV for construction equipment at distances of 50, 93, and 100 feet are listed in Table 4.12-8: Vibration Levels of Construction Equipment.

Table 4.12-8
VIBRATION LEVELS OF CONSTRUCTION EQUIPMENT

Equipment	PPV at 50 ft. (in/sec)	Vibration Decibels at 50 ft. (VdB)	PPV at 93 ft[a] (in/sec)	Vibration Decibels at 93 ft[a] (VdB)	PPV at 100 ft. (in/sec)	Vibration Decibels at 100 ft. (VdB)
Large Bulldozer	0.0315	78	0.0124	70	0.0111	69
Loaded Truck	0.0269	77	0.0106	69	0.0095	68
Jackhammer	0.0124	70	0.0049	62	0.0044	61
Pile Driving	0.2277	95	0.0898	87	0.0805	86
FTA Thresholds	**PPV**	**0.12 in/sec**		**VdB**	**80 VdB**	
Exceeds Threshold?	**PPV**	**No**		**VdB**	**Yes**	

[a] The closest residence to the pile driving location is approximately 93 feet away.

As shown in **Table 4.12-8**, the vibration level of the listed construction equipment, except pile drivers, at a distance of 50 feet is less than the FTA damage threshold of 0.12 inch per second PPV for fragile historic buildings, and is below the FTA annoyance criterion of 80 VdB. Pile driving at 93 feet, or the pile driving distance nearest a residence, would cause 0.0898 inch per second PPV and 87 VdB, which would not exceed the FTA damage threshold, but would exceed the FTA annoyance criterion. Mitigation measure N-MM-4 would reduce the VdB below the FTA threshold of 80 VdB; thus, vibration impacts will be less than significant with mitigation.

N-MM-4: On pile drivers, use a resilient pad between the pile and the hammer head, when feasible. This will reduce vibration impacts by about a factor of two (Jones & Stokes, 2004) to levels below the applicable thresholds.

Operational Vibration Effects

Operation of the proposed project would not involve significant sources of ground-borne vibration or ground-borne noise. Thus, operation of the proposed project will result in no impact.

c) Less Than Significant Impact.

The principal long-term noise source in the project area would be traffic on local roadways. (Since construction is short-term, its noise effects would not permanently increase the ambient noise levels.). Baseline and project-related CNEL levels were estimated for the three arterial segments that were analyzed in the traffic study. For the baseline, it was assumed that the ambient L_{eq} values measured for this study applied to daytime and evening hours, and the L_{90} values so measured applied to nighttime hours. (See **Table 4.12-2** for these values.) To estimate the CNEL for the project case, it was assumed that the daily trips estimated by the traffic study were evenly distributed throughout the operating hours of the Nature Center (8:00 a.m. to 5:00 p.m.). As a conservative case, the analysis was performed for weekends only. **Table 4.12-9**: Changes in CNEL With Project-Related Traffic shows the results of the analysis.

Table 4.12-9
CHANGES IN CNEL WITH PROJECT-RELATED TRAFFIC

Arterial	Baseline CNEL dBA	CNEL With Project dBA	Change in CNL With Project dBA
Lenawee Avenue Between Wrightcrest Drive and Stoneview Drive	60.3	60.4	0.1
Wrightcrest Drive Between Lenawee Avenue and La Cienega Boulevard	63.9	63.9	< 0.1
Stoneview Drive Between Project Site and Lenawee Avenue	54.9	55.3	0.4

The increase in the CNEL is less than 1 dBA for all three arterials. This change is barely detectable by most people. Thus, the proposed project would not cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, and the impacts will be less than significant.

d) Less Than Significant Impact With Mitigation.

As described in Section 4.12a, construction of the proposed project would generate short-term intermittent increases in noise associated with construction activities, however, with mitigation measures N-MM-1 through N-MM-3, the temporary noise impacts will be less than significant.

e) No Impact.

The proposed project is not located within two miles of an airport. Therefore, the project would not have the potential to expose people to excessive airborne noise levels associated with over-flights or aircraft departures or arrivals. Thus, the airborne noise impacts within the project area will be less than significant.

f) No Impact.

The proposed project is not located within the vicinity of a private airstrip. Therefore, implementation of the proposed project will not expose people residing or working in the project area to excessive noise levels. Thus, the airborne noise impacts within the project area will be less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
4.13 Population and Housing				
Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Impact Analysis

a) No Impact.

Operation of the proposed project would use existing infrastructure. No additional extension of roads or other infrastructure is proposed. Construction of a new interpretive nature center on a site formerly developed as an elementary school will not require new housing or business, and will not induce substantial population growth in the area.

b) No Impact.

See discussion below.

c) No Impact.

There are no housing units on the project site. The proposed project has no residential component and does not involve the demolition of existing housing. No persons or housing will be displaced and no replacement housing will be needed as a result of the proposed project.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact

4.14 Public Services

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

<u>Impact Analysis</u>

a) Less than Significant Impact.

The project site is served by the City of Culver City Fire Department, which consists of 62 sworn personnel, two civilian fire prevention specialists, and eight support staff. The city is divided into three fire districts and two rescue districts. There are three fire stations, a training facility, a telecommunication facility (radio shop), and both the Fire Prevention and Administration components are housed within City Hall. The project site is served by Fire Station 1 at 9600 Culver Boulevard, which is approximately 2.1 miles west of the project site. Fire Station 1 provides services to the northwestern portion of the city, including Blair Hills Park. This station is equipped with three active units and five reserved units. The station apparatus include a fire engine staffed with three firefighters, an ALS Ambulance staffed with two firefighter/paramedics, and a battalion staffed by battalion chief. Reserved apparatus consists of three engines, one truck, and one battalion chief reserved command vehicle.

The proposed project would not introduce a resident population or induce residential population growth. The existing buildings would be demolished and replaced by a 4,000-square-foot building. The new smaller size building would reduce the designated fire hazard level from high to moderate risk (Culver City, 2009). For these reasons, operation of the proposed project would not diminish the staffing or the response times of existing fire stations serving the area. The Fire Department would review development plans for the proposed project for compliance Building and Safety Codes for building setbacks, emergency access, building setbacks, emergency access, building construction, water mains, fire hydrant flows, hydrant spacing, access and other hazard reduction programs. The proposed project implementation would not introduce a special fire protection issue that would result in a substantial decline in existing service levels.

Trespassing, vandalism and other public nuisances, such as fireworks, would be prohibited and violators prosecuted pursuant to § 1.23.050-1.23.110 and § 17.04.260 of the Los Angeles County Municipal Code. No new or altered fire protection services would be needed to accommodate the proposed project. Therefore, the proposed project would have a less than significant impact on fire protection.

Project Design Features

The following project design features will be incorporated in the proposed project:

PS-PDF-1: The proposed project will comply with the California Code of Regulations, Title 24, Part 9, 2010 California Fire Code (CFC) and the Culver City Municipal Code CCMC 9.02.

PS-PDF-2: The proposed project will comply with 2010 CFC Chapter 3, GENERAL PRECAUTIONS AGAINST FIRE.

PS-PDF-3: The proposed project will comply with 2010 CFC Chapter 4, EMERGENCY PLANNING AND PREPAREDNESS.

PS-PDF-4: The proposed project will comply with 2010 CFC Chapters 5 and 9 to include a minimum 20 foot clear width on fire apparatus access roads (including public streets) to the project site. The existing access to the project site would be modified, as needed, to provide a 20-foot wide unobstructed clear path which may change or limit parking and traffic on narrow roadways to include a minimum 13.5-foot vertical clearance, access to building openings and roofs, premises identification, KNOX boxes (as required), fire protection water supplies, and fire protection equipment identification and access. The fire lane on site will be 26 feet wide with no vertical obstruction. Additional fire hydrants, if needed, would be placed at locations specified by the Culver City Fire Department.

PS-PDF-5: The proposed project would comply with 2010 CFC Chapter 7, FIRE RESISTIVE-RATED CONSTRUCTION. All structures should be constructed of Fire Resistive-Rated Construction, and roof assembly should be a Class A rated assembly. Project construction shall comply with LA County Fire Department requirements for plants, plantings, clear areas and construction for an Urban Wildland Interface area.

PS-PDF-6: The proposed project will comply with 2010 CFC Chapter 9, FIRE PROTECTION SYSTEMS. Through Culver City Municipal Code Section 9.02.035, the City has amended Chapter 9, Section 901.4.1.2 of the CFC to require that "an automatic fire-extinguishing (sprinkler) system shall be installed in every new building in the City, … " Full coverage fire sprinkler system(s) are required in all buildings and shall be maintained, tested and inspected per the 2010 CFC Chapter 9, Section 901 and installed per the 2010 NFPA Standard 13 as amended by the Building Standards Commission and California State Fire Marshal. Plan check. Permits and inspections are required by the Culver City Fire Department.

PS-PDF-7: The proposed project will comply with 2010 CFC Chapter 10, MEANS OF EGRESS.

PS-PDF-8: The proposed project will comply with all 2010 CFC chapters pertaining to the use and occupancy, hazardous materials mix, use, dispensing and storage.

PS-PDF-9: The proposed project will comply with CCFD requirements for maintenance of Fire Department access, and fire life safety systems.

PS-PDF-10: A method of addressing additional medical and emergency calls will be established for the proposed project.

b) Less than Significant Impact.

The Los Angeles County Sheriff's Department (Sheriff) provides police protection for the proposed project. The project site is located less than one mile west of the Sheriff post at Kenneth Hahn State Recreation Area. The proposed project is a public facility intended to serve the existing population and not induce population growth to increase the need for police protection services. Construction and operation of the proposed project would introduce additional staff and visitors requiring police protection; however, the Sheriff employs sufficient personnel to patrol the project site. Therefore, the proposed project would result in less than significant impact on police protection services.

<u>Project Design Features</u>

To ensure adequate services are provided and to minimize the demands on police service, security and design measures that employ Defensible Space concepts will be utilized in development and construction plans. These measures incorporate the concepts of Crime Prevention Through Environmental Design (CPTED), which involves consideration such as placement and orientation of structures, access and visibility of common areas, placement of doors, windows, addressing and landscaping. CPTED promotes public safety, physical security and allows residents the ability to monitor activity in neighboring areas. The project elements that would address CPTED including the following:

PS-PDF-11: The park will be gated to limit pedestrian access to clearly marked entrances.

PS-PDF-12: Landscape design will avoid dense plantings that create hiding places immediately adjacent to the nature center building.

PS-PDF-13: Parking lot design will maximize visibility and surveillance by implementing Illuminating Engineering Society of North America (IESNA) standards.

PS-PDF-14: An illuminated diagrammatic building directory at all entrances to the nature center will assist in response time for emergency personnel entering site.

PS-PDF-15: The building design incorporates windows on all sides to provide opportunities for observation of outdoor activities.

PS-PDF-16: A construction site security plan will be submitted to the Sheriff prior to the beginning of construction.

PS-PDF-17: An address and photometric lighting plan will be submitted to the Sheriff for approval prior to start of construction.

PS-PDF-18: Emergency phone locations will be situated on the property at the determination of the Sheriff. The phones will be identified by location and phone number prior to occupancy with the approval of the Sheriff.

c) No Impact.

There is no residential component to the proposed project, so no residential population growth is expected. Because the proposed project is not growth-inducing and would not introduce new housing to the project site, no new or altered schools would be needed to accommodate the proposed project.

d) No Impact.

The proposed project is for public recreational and educational use, and would be a benefit to existing park facilities such as Blair Hills Park by providing additional community amenities to include an observation area and Yoga deck. The proposed project would not introduce new residential units or adversely affect public park or recreational services.

e) No Impact.

The proposed project is open to the public, and would provide recreational and community services to nearby residents and visitors. The proposed project would include a nature center with environmentally sensitive amenities. For these reasons, the proposed project would have a positive effect and would improve public facilities for the area.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
4.15 Recreation				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Impact Analysis

a) Less than Significant Impact.

Implementation of the proposed project would result in a beneficial impact by providing additional recreational facilities for area residents. No residential component is involved in the proposed project. No new residential population is introduced. No increase in use of existing neighborhood and regional parks or other recreational facilities from population growth is anticipated. The proposed project is not anticipated to impact other park or recreational facilities in the area. For these reasons, project impact in relation to parks and recreation would be less than significant.

b) Less than Significant Impact.

The proposed project is a new recreational facility. Potential environmental impacts are analyzed throughout this IS/MND and mitigation measures are recommended in each respective section. This project does not require the expansion or construction of other recreational facilities which might have an adverse impact on the environment.

4.16 Transportation and Traffic

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☒	☐	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐

Impact Analysis

a) Less than Significant Impact With Mitigation.

The following discussion is based upon a traffic study conducted in October 2013 and revised in December 2013 and March 2014by IBI Group, Inc. (La Point, 2014) and provided in **Appendix G**. Traffic surveys were conducted on October 24, 2013 (a weekday) and October 27, 2013 (a weekend day) at the intersections shown in **Figure 4.16-1** and along the street segments shown in **Figure 4.16-2**. **Tables 4.16-1**: Results of October 2013 Intersections Survey and **4.16-2**: Results of October 2013 Street Segment Survey summarize the results of the traffic counts. Daily traffic in the neighborhood north of the project site ranged from 116 to 713 trips per day during the week and from 104 to 668 trips per day during the weekend.

The County of Los Angeles Department of Parks and Recreation (DPR) used visitor data from three most comparable natural areas in Los Angeles County to estimate daily attendance at the proposed project (Sohm, 2013). (See **Appendix A**.) The proposed park is expected to receive 125 visitors on a typical weekday and 275 visitors on a typical weekend day.

The average number of persons per vehicle visiting the Nature center was estimated as follows. The 2009 National Household Travel Survey,[22] published by the U.S. Department of Transportation, found that the average vehicle occupancy for cars was 1.59 persons per vehicle, and the average occupancy for vans and sport utility vehicles was 2.35 and 1.92 persons per vehicle, respectively. Recreational land uses such as the Nature Center are even more likely to be attended by groups of two or more persons arriving in a single vehicle. However, to be conservative, the approximate average of the three rates (two persons per vehicle) was used in the study. Each vehicle creates two trips: one inbound and one outbound. Therefore the number of daily vehicle trips on weekdays and weekend days would be 125 and 275, respectively.

The potential use of the project as a trailhead for the proposed Park to Playa Trail was included in the DPR's visitor projections because the comparable natural areas include trails and/or trail connections. The Park to Playa Trail project would be an approximately seven-mile system of walking, hiking and bicycle trails running east-southerly through other parks and open space in the Baldwin Hills. It would install a six-foot-wide natural surface trail that would extend from the Baldwin Hills Scenic Overlook State Park to La Cienega Boulevard to provide a connection to the Kenneth Hahn State Recreational Area (KHSRA). This new trail would travel through 18 acres of land that is currently used for oilfield operations and is not accessible to the public. This segment of the Park to Playa Trail project, referred to as Segment C, would also include an interpretive node near the southwestern corner of the Stoneview Nature Center site, that would consist of seat walls, a planting area, and interpretive signage. The Initial Study/Mitigated Negative Declaration (IS/MND) for the Park to Playa Trail project (BHRCA, 2013) identifies the parking lots at the Baldwin Hills Scenic Overlook, Culver City Park and the KHRSA as serving the Park to Playa Trail. A gate or opening will be provided to connect the Stoneview Nature Center site to the Park to Playa Trail.

Table 4.16-3: Trips Generated by the Proposed Project summarizes the numbers of trips generated by the proposed Stoneview Nature Center for its own use and its use as a trailhead.

[22] Occupancy data from National Traffic Survey summarized at https://www1.eere.energy.gov/vehiclesandfuels/facts/2010_fotw613.html.

Figure 4.16-1
TRAFFIC STUDY INTERSECTIONS

Figure 4.16-2
TRAFFIC STUDY ARTERIAL SEGMENTS

Table 4.16-1
RESULTS OF OCTOBER 2013 INTERSECTIONS SURVEY

No.	Description	Peak Hourly Traffic Count		
		Thursday October 24, 2013		Sunday October 27, 2013
		A.M. Peak[a]	P.M. Peak[b]	Peak Hour[c]
1	Jefferson Boulevard and Rodeo Road	4,232	4,110	2,591
2	Lenawee Avenue and Rodeo Road	2,677	2,525	1,733
3	La Cienega Boulevard and Rodeo Road	6,785	7,019	5,928
4	Holdrege Avenue and Jefferson Boulevard	3,113	3,323	1,951
5	Lenawee Avenue and Ivy Way	120	452	139
6	La Cienega Boulevard and Wrightcrest Drive	4,403	5,258	4,120
7	La Cienega Boulevard and Stocker Street	6,535	7,110	5,685

[a]Highest-volume 60-minute period between 7:00 A.M. and 9:00 A.M.
[b]Highest-volume 60-minute period between 4:00 P.M. and 6:00 P.M.
[c]Highest-volume 60-minute period between 11:00 AM. and 3:00 P.M.

Table 4.16-2
RESULTS OF OCTOBER 2013 STREET SEGMENT SURVEY

No.	Arterial	Between	Daily Traffic	
			Thursday October 24, 2013	Sunday October 27, 2013
1	Lenawee Avenue	Wrightcrest Drive and Stoneview Drive	300	285
2	Wrightcrest Drive	Lenawee Avenue and La Cienega Boulevard	713	668
3	Stoneview Drive	Nature Center and Lenawee Avenue	116	104

Table 4.16-3
TRIPS GENERATED BY THE PROPOSED PROJECT

Time Period	Weekday Trips	Weekend Trips
Peak Hourly	31	68
Daily	125	275

Study intersection future forecast traffic conditions are analyzed using the Intersection Capacity Utilization (ICU) methodology, consistent with the County of Los Angeles Traffic Impact Analysis Guidelines (1997) and the "Traffic Study Criteria for the Review of Proposed Development Projects Within the City of Culver City" (City of Culver City, 2012). The ICU methodology is based on intersection volume-to-capacity (V/C) ratios. The ICU value for each movement is the observed or forecast volume divided by the saturation flow volume. The intersection ICU value is the sum of the ICU values for the critical movement on each leg, where the critical movement is the one (left, though, or right) that has the highest ICU value. ICU values are usually expressed as a decimal fraction (e.g. 0.74), where 1.00 represents the saturated condition (where the volume of traffic flow is equal to the capacity.)

Consistent with the City of Culver City's traffic study criteria, the general lane capacity is assumed to be 1,600 vehicles per hour per lane, and the capacity used for a set of dual left turn lanes was 2,880 vehicles per hour. A 10% loss time was also utilized for the yellow traffic signal clearance interval.

The efficiency of traffic operations is measured in terms of Level of Service (LOS). The LOS refers to the quality of traffic flow along roadways and at intersections. Evaluation of roadways and intersections involves the assignment of grades from "A" to "F," with LOS "A" representing the highest level operating conditions and LOS "F" representing extremely congested and restricted operations. Each letter grade corresponds to a range of V/C values, which are described in **Table 4.16-4**: Level of Service Description.

Intersection Level of Service analysis is performed using TRAFFIX software. TRAFFIX is a network-based interactive computer program that enables calculation of levels of service at signalized and unsignalized intersections for multiple locations and scenarios. TRAFFIX also calculates signal timing (green times and cycle lengths) and maximum queue lengths to assist in evaluating signalized intersections.

For intersections, the impact is considered significant if the project related increase in the volume to capacity (v/c) ratio equals or exceeds the thresholds shown in **Table 4.16-5**: Significance Thresholds for Intersections.

Table 4.16-4
LEVEL OF SERVICE DESCRIPTION

Level of Service	ICU	Value Definition
A	A 0.00 – 0.60	At level of service A there are no cycles that are fully loaded, and few are even close to loaded. No approach phase is utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turning movements are easily made, and nearly all drivers find freedom of operation.
B	B 0.61 – 0.70	Level of service B represents stable operation. An occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel somewhat restricted within platoons of vehicles.
C	C 0.71 – 0.80	In level of service C stable operation continues. Full signal cycle loading is still intermittent, but more frequent. Occasionally drivers may have to wait through more than one red signal indication, and back-ups may develop behind turning vehicles.
D	D 0.81 – 0.90	Level of service D encompasses a zone of increasing restriction, approaching instability. Delay to approaching vehicles may be substantial during short peaks within the peak period, but enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive back-ups.
E	E 0.91 – 1.00	Level of service E represents the most vehicles that any particular intersection approach can accommodate. At capacity (V/C = 1.00) there may be long queues of vehicles waiting upstream of the intersection and delays may be great (up to several signal cycles).
F	F > 1.000	Level of service F represents jammed conditions. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration; hence, volumes carried are not predictable. V/C values are highly variable, because full utilization of the approach may be prevented by outside conditions.

ICU – Intersection Capacity Utilization
Source: Highway Capacity

Table 4.16-5
SIGNIFICANCE THRESHOLDS FOR INTERSECTIONS

Pre-Project Condition		Project V/C Increase
LOS	V/C	
A	0.600 or less	No significant impact
B	0.601 – 0.701	No significant impact
C	0.701 – 0.800	Equal to or greater than 0.05
D	0.801 – 0.900	Equal to or greater than 0.04
E	0.901 – 1.000	Equal to or greater than 0.02
F	1.001 or more	Equal to or greater than 0.02

Source: *Traffic Study Criteria for the Review of Proposed Development Projects Within the City of Culver City*. City of Culver City, Public Works Department and Community Development Department (July 2012), Table 4.

A project is deemed to have a significant impact on residential streets when it adds the percentages of average daily traffic (ADT) shown in Table 4.16-6: Significant Impact Thresholds for Two-Lane Roadways.

Table 4.16-6
SIGNIFICANT IMPACT THRESHOLDS FOR TWO-LANE ROADWAYS

Projected Average Daily Traffic With Project	Project Related Increase in Average Daily Traffic
999 or less	120 or more
1,000 to 1,999	12% or more of final ADT
2,000 to 2,999	10% or more of final ADT
3,000 or more	8% or more of final ADT

Source: *Traffic Study Criteria for the Review of Proposed Development Projects Within the City of Culver City*. City of Culver City, Public Works Department and Community Development Department (July 2012), Table 5.

Tables 4.16-7, **4.16-8**, and **4.16-9** show the results of the level of service (LOS) analysis for the weekday A.M. peak hour, weekday P.M. peak hour, and Sunday peak hour, respectively. As seen in these tables, there would be no significant impacts to study intersections attributable to the Stoneview Nature Center Project. Signals would not be warranted at any unsignalized locations.

Table 4.16-7
LEVEL OF SERVICE ANALYSIS FOR WEEKDAY A.M. PEAK HOUR

No.	Intersection	AM Peak Hour					
		Year 2013					
		No Project		With Project		Change	Impact?
		V/C	LOS	V/C	LOS	V/C	
1	Jefferson Boulevard & Rodeo Road	0.815	D	0.821	D	0.006	**No**
2	Lenawee Avenue & Rodeo Road	0.077	A	0.082	A	0.005	**No**
3	La Cienega Boulevard & Rodeo Road	1.108	F	1.112	F	0.004	**No**
4	Holdrege Avenue & Jefferson Boulevard	0.599	A	0.601	B	0.002	**No**
5	Lenawee Avenue & Ivy Way	0.061	A	0.071	A	0.100	**No**
6	La Cienega Boulevard & Wrightcrest Drive	0.000	A	0.000	A	0.000	**No**
7	La Cienega Boulevard & Stocker Street	1.288	F	1.288	F	0.000	**No**

No.	Intersection	AM Peak Hour					
		Year 2016					
		No Project		With Project		Change	Impact?
		V/C	LOS	V/C	LOS	V/C	
8	Jefferson Boulevard & Rodeo Road	1.049	F	1.049	F	0.001	**No**
9	Lenawee Avenue & Rodeo Road	0.089	B	0.095	B	0.006	**No**
10	La Cienega Boulevard & Rodeo Road	1.219	F	1.223	F	0.004	**No**
11	Holdrege Avenue & Jefferson Boulevard	0.754	C	0.756	C	0.002	**No**
12	Lenawee Avenue & Ivy Way	0.063	A	0.073	A	0.010	**No**
13	La Cienega Boulevard & Wrightcrest Drive	0.000	A	0.000	A	0.000	**No**
14	La Cienega Boulevard & Stocker Street	1.336	F	1.337	F	0.001	**No**

Table 4.16-8
LEVEL OF SERVICE ANALYSIS FOR WEEKDAY P.M. PEAK HOUR

No.	Intersection	PM Peak Hour					
		Year 2013					
		No Project		With Project		Change	Impact?
		V/C	LOS	V/C	LOS	V/C	
15	Jefferson Boulevard & Rodeo Road	0.783	C	0.783	C	0.000	**No**
16	Lenawee Avenue & Rodeo Road	0.104	C	0.128	C	0.024	**No**
17	La Cienega Boulevard & Rodeo Road	1.061	F	1.068	F	0.007	**No**
18	Holdrege Avenue & Jefferson Boulevard	0.720	C	0.723	C	0.003	**No**
19	Lenawee Avenue & Ivy Way	0.468	C	0.478	B	0.010	**No**
20	La Cienega Boulevard & Wrightcrest Drive	0.000	A	0.000	A	0.000	**No**
21	La Cienega Boulevard & Stocker Street	1.184	F	1.185	F	0.001	**No**

No.	Intersection	PM Peak Hour					
		Year 2016					
		No Project		With Project		Change	Impact?
		V/C	LOS	V/C	LOS	V/C	
22	Jefferson Boulevard & Rodeo Road	0.905	E	0.906	E	0.001	**No**
23	Lenawee Avenue & Rodeo Road	0.119	C	0.145	C	0.026	**No**
24	La Cienega Boulevard & Rodeo Road	1.135	F	1.142	F	0.007	**No**
25	Holdrege Avenue & Jefferson Boulevard	0.810	D	0.813	D	0.003	**No**
26	Lenawee Avenue & Ivy Way	0.482	B	0.493	B	0.011	**No**
27	La Cienega Boulevard & Wrightcrest Drive	0.000	A	0.000	A	0.000	**No**
28	La Cienega Boulevard & Stocker Street	1.229	F	1.230	F	0.001	**No**

Table 4.16-9
LEVEL OF SERVICE ANALYSIS FOR SUNDAY PEAK HOUR

No.	Intersection	Sunday Peak Hour					
		Year 2013					
		No Project		With Project		Change	Impact?
		V/C	LOS	V/C	LOS	V/C	
29	Jefferson Boulevard & Rodeo Road	0.550	A	0.552	A	0.002	**No**
30	Lenawee Avenue & Rodeo Road	0.044	B	0.072	B	0.048	**No**
31	La Cienega Boulevard & Rodeo Road	0.870	D	0.877	D	0.007	**No**
32	Holdrege Avenue & Jefferson Boulevard	0.346	A	0.351	A	0.005	**No**
33	Lenawee Avenue & Ivy Way	0.090	A	0.115	A	0.025	**No**
34	La Cienega Boulevard & Wrightcrest Drive	0.000	A	0.000	A	0.000	**No**
35	La Cienega Boulevard & Stocker Street	0.934	E	0.936	E	0.002	**No**

No.	Intersection	Sunday Peak Hour					
		Year 2016					
		No Project		With Project		Change	Impact?
		V/C	LOS	V/C	LOS	V/C	
36	Jefferson Boulevard & Rodeo Road	0.582	A	0.584	A	0.002	**No**
37	Lenawee Avenue & Rodeo Road	0.047	B	0.075	B	0.028	**No**
38	La Cienega Boulevard & Rodeo Road	0.899	D	0.907	E	0.008	**No**
39	Holdrege Avenue & Jefferson Boulevard	0.369	A	0.375	A	0.006	**No**
40	Lenawee Avenue & Ivy Way	0.094	A	0.118	A	0.024	**No**
41	La Cienega Boulevard & Wrightcrest Drive	0.000	A	0.000	A	0.000	**No**
42	La Cienega Boulevard & Stocker Street	0.964	E	0.966	E	0.002	**No**

The residential street analysis for the Lenawee Avenue, Wrightcrest Drive and Stoneview Drive segments that provide access to and from the project area is summarized in **Table 4.16-10**: Weekday Analysis of Study Residential Streets. The weekend analysis is provided in **Table 4.16-11**: Weekend Analysis of Study Residential Streets. Based on the City of Culver City thresholds, the project would create a significant impact on Lenawee Avenue and Stoneview Drive on the weekend. This impact will be reduced to a less than significant level by implementation of mitigation measures T-MM-1 and T-MM-2.

Table 4.16-10
WEEKDAY ANALYSIS OF STUDY RESIDENTIAL STREETS

Road	Segment	Existing Daily Volume	Project Trips	Daily Traffic With Project	Threshold (Project Trips) for Significant Impact	Impact Yes or No?
Lenawee Avenue	Wrightcrest to Stoneview	300	100	400	120	No
Wrightcrest Drive	Stoneview to Lenawee	713	25	738	120	No
Stoneview Drive	Project Site to Lenawee	116	100	216	120	No

Table 4.16-11
WEEKEND ANALYSIS OF STUDY RESIDENTIAL STREETS

Road	Segment	Existing Daily Volume	Project Trips	Daily Traffic With Project	Threshold (Project Trips) for Significant Impact	Impact Yes or No?
Lenawee Avenue	Wrightcrest to Stoneview	285	220	505	120	Yes
Wrightcrest Drive	Stoneview to Lenawee	668	55	723	120	No
Stoneview Drive	Project Site to Lenawee	104	220	324	120	Yes

T-MM-1 In order to mitigate potential residential street impacts to a less than significant level, the County will establish a traffic monitoring program that includes "before" and "after" traffic counts and parking surveys on Stoneview Drive between Lenawee Avenue and project site and on Lenawee Avenue between Stoneview Drive and Wrightcrest Drive to capture vehicles entering the Stoneview Nature Center from both directions. . The program will measure traffic volumes, speed, directions, and vehicle type for one week before construction of the Stoneview Nature Center and then for one week approximately three to four months after the Nature Center is in full operation.

T-MM-2 If the monitoring program shows an increase of 120 vehicles per day or more on any of the residential streets in the area, the County will fund and work with the City of Culver City to devise and implement measures to reduce the impacts of increased traffic. These measures may include traffic calming measures from the City's Neighborhood Traffic Calming Program such as, but not limited to, additional signage, speed feedback signs, speed humps or speed tables, , or restrictions to or closure of access from the Stoneview Nature Center to the Park to Playa trail. The traffic calming measures will be funded as stipulated in the Memorandum of Understanding between the County of Los Angeles Department of Parks and Recreation and the City of Culver City.[23] The County will conduct monitoring to verify the effectiveness of the mitigation measures. If these measures do not reduce the project's generated traffic to less than 120 vehicles per day, the County and the City will explore additional measures to reduce the traffic to a less than significant level.

The proposed project includes plans for two surface parking lots. The surface parking would include a small parking lot with 16 spaces and a larger parking lot with 45 spaces. The two lots would be located adjacent to each other at the northwest corner of the site. Access to the surface lots would be provided via a single gated driveway on Stoneview Drive.

Parking Requirements

The Stoneview interpretive center site plan shows approximately a 1,450-square-foot assembly area, plus an additional 2,550 square feet of support area that includes office space, restrooms, and equipment rooms.

Section 22.52.1175 of the Los Angeles County, California Code of Ordinances provides off-street parking requirements for public park facilities. The County Planning and Zoning ordinance stipulates that publicly owned parks less than 50 acres in size shall provide one automobile parking space for each 45 square feet of floor area in the largest public assembly area, plus one automobile parking space for every 400 square feet of remaining floor area in the building. The off-street parking requirements are tabulated for the proposed project in **Table 4.16-12**.

Table 4.16-12
LOS ANGELES COUNTY OFF-STREET PARKING REQUIREMENT

Area	Size	Parking Requirement Rate[a]	Number of Parking Spaces Required	Parking Spaces Provided
Assembly Area	1,450 square feet	1 space per 45 square feet	33	45
Support Spaces	2,550 square feet	1 space per 400 square feet	7	16
Park	5 acres	1 space per 0.5 acre	10	
Total			50	61[b]

[a] Source: Los Angeles County, California Code of Ordinances Section 22.52.1175.
[b] Four parking spaces may be used by the Nature Center Staff; 57 would be available to the public.

For comparison, Section 17.320.020 of the Culver City Zoning Code provides the minimum number of off-street parking spaces required by land use. "Nature center" is not an explicitly listed land use, so the general rate for assembly uses, religious places of worship, clubs, mortuaries with

[23] The memorandum of understanding is in draft form.

congregational services, meeting halls, membership organizations, sports arenas, stadiums and theaters for recreation, education and public assembly uses was applied. The off-street parking requirement is calculated in **Table 4.16-13**: City of Culver City Off-Street Parking Requirements. A total of 61 spaces would be available, and up to four of these may be used by staff.

Table 4.16-13
CITY OF CULVER CITY OFF-STREET PARKING REQUIREMENTS

Area	Size	Parking Requirement Rate[a]	Number of Parking Spaces Required	Parking Spaces Provided
Assembly Area with No Fixed Seats	1,450 square feet	1 space per 35 square feet	42 spaces	55 spaces
Office Space[b]	300 square feet	1 space per 350 square feet	1 spaces	6 spaces
Total			43 spaces	61 spaces

[a]Source: Culver City Zoning Code Section 17.320.020
[b]Approximately 300 square feet of office space and 600 square feet of lobby area are shown on the site plan.

Parking Demand Generation

The ITE Parking Generation Manual, 4th Edition provides averages, ranges, and statistical quality values of parking demand generated by various land uses. There is no rate available for nature center use, but some similar types of land uses and the associated parking demand are summarized in **Table 4.16-14**: ITE Parking Generation.

Table 4.16-14
ITE PARKING GENERATION

Use Classification	Unit	Quantity	ITE Rate (Spaces/Unit)	Peak Parking Generation
411 City Park	Acres	5.0	2.80	14
435 Multipurpose Recreational Facility	TSF	4.0	10.67	43
495 Recreational Community Center	TSF	4.0	4.00	16

Source: ITE Trip Generation Manual, 4th Edition
TSF = Thousand Square Feet
Note: If both weekday and weekend rates are available, the higher rate was selected for this table.

The ITE Parking Generation Manual rates for City Park, Multipurpose Recreational Facility and Recreational Community Center suggests that, based on observations made at similar types of uses, the parking demand at the Stoneview Nature Center Site may vary between 14 and 43 parking spaces. Based on the projected visitor attendance developed in the Trip Generation section, the maximum number of expected visitors to the site on a typical Sunday would be 69. With an assumed average occupancy of two people per vehicle, the peak parking demand for visitors is expected to be 35 parking spaces. This analysis suggests that the 61 parking spaces provided would be sufficient to meet the needs of the Nature Center for typical use.

It is anticipated that schools would bring groups of children to the Nature Center for field trips, but they are expected to arrive by bus and create minimal impacts to traffic or parking.

If the County of Los Angeles Department of Parks and Recreation chooses to allow the Nature Center to be used for special events, there is a potential impacts on neighborhood parking. These impacts will be reduced to a less than significant level by implementation of mitigation measure T-MM-3.

T-MM-3 As part of the "before" and "after" monitoring to be performed under mitigation measure T-MM-1, the County will measure street parking utilization. The County of Los Angeles Department of Parks and Recreation will develop a parking management plan to help staff identify conditions that would require active parking management. The plan will provide strategies to address varying levels of parking demand to ensure that demand does not exceed supply, and prevent overflow parking from encroaching onto neighborhood streets. If a special event is expected to generate parking demand that exceeds supply, an alternative offsite parking lot will be identified and a shuttle service provided between the offsite parking lot and the Nature Center site. The plan will also identify shuttle routes, headways, and directional signage locations.

It is anticipated that construction vehicles may temporary impact local street parking. This impact will be reduced to a less than significant level by implementation of mitigation measure T-MM-4.

T-MM-4 During construction, construction related vehicles shall be parked on the Project construction site, and shall not be parked on nearby residential streets.

b) Less Than Significant Impact.

The Congestion Management Program (CMP) for Los Angeles County guidelines for determining the analysis study area for CMP arterial monitoring intersections and for freeway monitoring locations are:

- All CMP arterial monitoring intersections where the proposed project will add 50 or more trips during either the AM or PM weekday peak hours of adjacent street traffic.

- All CMP mainline freeway monitoring locations where the proposed project will add 150 or more trips in either direction during either the AM or PM weekday peak hours.

The 2010 Congestion Management Program for Los Angeles County indicates that a significant impact occurs for an intersection when the proposed project increases traffic demand on a CMP facility by 2 percent (2%), causing LOS F ($V/C \geq 1.00$); if the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand by 2 percent of capacity ($V/C \geq 0.02$).

La Cienega Boulevard is identified as part of the Congestion Management Plan (CMP) Highway and Roadway System for Los Angeles County. The nearest CMP arterial monitoring intersection is the intersection of La Cienega Boulevard and Jefferson Boulevard (CMP ID 46), which is located approximately 1.2 miles north of the project site. Based on the proposed project trip generation projections from this study, the proposed project is not expected to add 50 or more trips per hour to this location. Therefore, no further analysis of this CMP monitoring intersection is required.

The nearest mainline freeway monitoring location to the project site is the I-10 freeway east of the La Brea Avenue undercrossing (CMP Station 1012), which is approximately 3 miles northeast of the site. Based on the proposed project trip generation projections, the project is not forecast to add 150 or more new peak hour trips onto the freeway mainline. No further analysis of this CMP monitoring intersection is required.

The proposed project would not increase traffic congestion in its immediate surroundings and in the nearby residential neighborhood. The project is not expected to create significant impacts to study area intersections and two-lane roadways based on the Los Angeles County thresholds for significant impacts, and is not required to contribute toward any fair share costs for roadway improvements to the circulation system. Because impacts would be less than significant, no mitigation measures are necessary. However, the following measures are recommended to minimize the potential impacts that may be experienced by residents in the vicinity of the project site due to increased traffic levels on local residential streets, and to prevent any potential overflow parking from utilizing on-street parking spaces.

- It is recommended that the Stoneview Nature Center not be identified as an official trailhead in any Park to Playa Trail project documents or published materials. While it is possible that some hikers who are not interested in visiting the Nature Center may park in the Stoneview parking lot to access the trails, visitors should be encouraged to park in one of the other available public parking lots. The Stoneview Nature Center parking lot should not be identified in any printed or electronic maps produced as part of the Park to Playa Trail project, and no signage installed as part of the Park to Playa Trail project should direct vehicles toward the Stoneview site.

- The County of Los Angeles Department of Parks and Recreation should limit the attendance at special events held at the Stoneview Nature Center to a level that can reasonably be accommodated by the surface parking lot. Unless provisions have been made for a large group to arrive by bus or other alternative mode of transportation, at least one parking space should be allocated per staff member and one parking space allocated for every two visitors or guests so as not to exceed parking capacity.

- If Stoneview intends to hold special events with more than 90 attendees and staff arriving in private vehicles, a special event parking management plan should be developed to identify an off-site parking location, shuttle service routes and headways, and directional signage locations.

c) No Impact.

The project site is not located within two miles of a public airport or public-use airport nor is it located within an airport land use plan. The closest public-use airport is the Santa Monica Municipal Airport, located more than four miles west-northwest of the project site. No activity associated with the project will result in an increase in air traffic levels or require a change in air traffic patterns.

d) Less Than Significant Impact.

The proposed project does not have any sharp curves, dangerous intersections, or other design features or incompatible uses that would create hazards to transportation. Ingress from and egress to Stoneview Drive would be in roughly the same location as the driveway that was used when the site was a school. The existing driveway would be realigned slightly to the east so it is in line with northbound/southbound Stoneview Drive. The same types of motor vehicles that passed through the neighborhood to and from the school (primarily automobiles and school buses and occasional light-duty trucks) will visit the facility in its new use.

e) Less Than Significant Impact.

As adequate parking will be available on-site, operation of the project will not increase on-street parking and will therefore not pose a problem for emergency access to the local neighborhood. Construction contracts will contain a stipulation that construction vehicles must be parked in a way to avoid obstruction of emergency access.

f) Less Than Significant Impact.

Stoneview Drive is served by Culver City Bus Route 5. The bus stop nearest the project site is at Stoneview Drive and Wrightcrest Drive. Buses run once in the morning and once in the afternoon on school days (City of Culver City, 2013). No activity associated with the project will conflict with or significantly decrease the performance of this bus service. The *Culver City Bicycle & Pedestrian Master Plan* (2010) identifies Wrightwood Drive between Lenawee Avenue and Blair Hills Park as a "proposed bicycle friendly street." This street is two blocks north of, and parallel to Stoneview Drive. No activity associated with the project will conflict with bicycle travel on that street segment. The *Culver City Bicycle & Pedestrian Master Plan* does not designate any pedestrian corridors in the project area.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
4.17 Utilities and Service Systems				
Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Impact Analysis

a) Less Than Significant Impact.

The proposed project would be subject to National Pollutant Discharge Elimination System (NPDES) permit requirements as administered by the Los Angeles Regional Water Quality Control Board, (LA-RWQCB). The project would produce a small amount of wastewater during construction and operation. Therefore, the proposed project would not exceed wastewater treatment requirements of the LARWQCB and project impact would be less than significant.

b) Less than Significant Impact.

The project site is currently served by a pipeline designed for wastewater removal and is well equipped to handle the amount of wastewater that would be generated by the project. An 8-inch diameter pipeline that discharges to the North Central Outfall Sewer currently runs parallel to

Stoneview Drive on the northern boundary of the project site. It is anticipated that project-related connection into this pipeline infrastructure may be needed and that the City Building and Safety's site plan review would ensure that these connections would be to the approved standards. For these reasons, the proposed project would not be expected to result in construction or expansion of new or existing wastewater treatment facilities.

The proposed project would install a new irrigation system. The new irrigation system would function similarly to the previous one, irrigating trees and other park landscaping. The proposed project would not construct new infrastructure that would expand existing demand or create new demand for water. Therefore, impacts related to requiring construction or expansion of water facilities would be less than significant.

c) Less than Significant Impact.

Adoption of the proposed project would not result in significant environmental effects associated with construction of new storm water drainage facilities. A large portion of the five-acre project site is currently covered by asphalt and concrete. The proposed project would remove much of the existing impermeable surfaces in favor for bioswales, detention basin, permeable paving for the surface parking lot, landscape buffers, and gardens. Furthermore, the city will ensure that all NPDES permit requirements are met and that standard BMPs proposed by the LA-RWQCB will reduce or eliminate non-storm water discharges associated with the proposed project. For these reasons, the proposed project would not be expected to result in construction or expansion of new or existing storm water drainage facilities.

d) Less Than Significant Impact.

The proposed project may increase the demand for water at the project site during both construction and operations phases due to the increase need for landscape irrigation. However, project features such water savings fixtures and drought-tolerant plants for landscaping buffers would substantially reduce the demand for potable water supply. Community and native gardens would include vegetation adapted to the local climate and would not require watering. The proposed project also intends to include Leadership in Energy and Environmental Design (LEED) features such as using grey water for landscape irrigation and limiting or eliminating the use of potable water or other natural surface or subsurface water resources for landscape irrigation. For these reasons, the proposed project will have sufficient water supplies available to serve the project and will have a less than significant impact on the water supply.

e) Less Than Significant Impact.

A significant impact would occur if the proposed project would increase wastewater generation to the degree that the capacity of facilities currently serving the project site would be exceeded. See response to checklist item 4.17a. The proposed project is located in an area with an existing, well developed wastewater treatment system. For these reasons, any increase in wastewater could be accommodated by the existing system without the need for upgrade.

f) Less Than Significant Impact.

The County of Los Angeles Sanitation Districts provides solid waste management services throughout Los Angeles County through three sanitary landfills, four landfill energy recovery facilities, three materials recovery/transfer facilities, and two refuse-to-energy facilities. Solid waste associated with the proposed project during construction and operation activities would be taken to the Puente Hills Landfill in the City of Whittier and the Southeast Resource Recovery Facility (SERRF) in Long Beach, or other suitable facility. Puente Hills Landfill is one of the largest landfills in the nation. Based on a generation rate for office building of 0.006 pound/square foot/day (CalRecycle, 2011), the new 4,000-square-foot interpretive center included as part of the proposed project would generate 4.38 tons of solid waste per year. Project generated waste is nominal compared to the remaining capacity at county landfills which stands at 142 million tons. The selected landfills have a large enough capacity that wastes generated by the proposed project will not exceed full capacity. Based on the available capacity of County landfills, and with incorporation of source reduction and recycling programs, project operation would not significantly impact landfill space.

g) No Impact.

The City of Culver City would be responsible for trash collection and recycling. The County would coordinate with the City to ensure that the proposed project complies with measures to reduce the amount of solid waste, as required by federal, state, and local statutes and regulations. During construction and operation, the proposed project would comply with all City, County and State solid waste diversion, reduction, and recycling mandates, including meeting the requirements of the California Integrated Waste Management Act. The Act requires that localities conduct a Solid Waste Generation Study (SWGS) and develop a Source Reduction Recycling Element (SRRE). The solid waste generated during the construction and operation of the proposed project would be disposed of in accordance with all applicable statutes and conservation measures regarding solid waste. Furthermore, the proposed project will incorporate LEED measures relating to waste management such as recycling and/salvaging non-hazardous construction and demolition debris, diverting construction and demolition debris from disposal in landfills and incinerators, and developing a construction waste management plan. Therefore, as the proposed project would comply with existing regulations related to solid waste, no project impact would result.

<u>Project Design Features</u>

The following project design feature will be incorporated into the proposed project:

U-PDF-1: Trash receptacles with lids will be placed throughout the project site at convenient locations for visitors to easily dispose of their trash and reduce the likelihood of litter.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
4.18 Mandatory Findings of Significance				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Impact Analysis

a) Less Than Significant Impact With Mitigation.

Environmental impacts identified in this IS/MND have recommended mitigation measures that reduce impacts to a less than significant level. Mitigation measures are recommended in each respective section. No impacts have been identified as potentially significant.

b) Less Than Significant Impact.

Impacts of the proposed project in conjunction with those of other current and future projects will be less than significant when viewed together. Future projects are discussed below.

Probable Future Projects

Park to Playa Trail

The Park to Playa Trail is a planned system of walking, hiking, and bicycle trails that would connect several parks in the Baldwin Hills area to the Pacific Coast through the Ballona Creek Bike Path and Marvin Braude Bike Path. The project would include improvements to existing formal and informal trails, and development of new trails in the Baldwin Hills area. These improvements would involve resurfacing, widening, and realigning existing and proposed trails; providing fencing, way-finding signs, trailhead facilities (i.e., an information kiosk, shade structures, benches, bike racks, and trash cans); landscaping with native plants and restoring habitat in disturbed areas adjacent to the trail; and reconstructing sidewalks, crosswalks, bike lanes, and a drainage channel. These improvements would provide trail connections from Ruben Ingold Park, Norman O. Houston Park, the Kenneth Hahn State Recreation Area (KHSRA), the Baldwin Hills Scenic Overlook, and Culver City Park to the Ballona Creek Bike Path. To promote trail use, a trailhead would be constructed that would include a parking area, signs, bike racks, a map kiosk, trash cans, and benches at the Five Points intersection. Other amenities along the trail would include shade structures, way-finding signs, art installations, an interpretive node, fencing, and gates. **Figure 4.18-1** shows an overview of the entire trail, which is divided into eight segments (A-H).

The proposed Stoneview Nature Center project site is adjacent to the planned Segment C of the Trail. Segment C is a one-third-mile connection across a portion of the Baldwin Hills Regional Conservation Authority (BHRCA) property from the Baldwin Hills Scenic Outlook east of La Cienega Boulevard and the KHRSA. The final alignment of Segment C of the Park to Playa trail will be the subject of appropriate analysis by the BHRCA, which is the lead agency for the Park to Playa trail project. The environmental analysis performed by the County of Los Angeles, lead agency for the Stoneview Nature Center, indicates that the Nature Center does not depend on the future alignment of Segment C. The Stoneview Nature Center project anticipates, but does not rely upon or preclude, realignment of a Park to Playa trail segment. The planned Segment C project area is shown in **Figure 4.18-2**. The proposed Stoneview Nature Center is labeled as "Abandoned School."

An IS/MND for the Park to Playa Trail was adopted in May 2013 (see **Figures 4.18-1** and **2**). Its Park to Playa trail alignment is shown on **Figure 4.18-1** as preliminary, and "to be revised".

Figure 4.18-1
OVERVIEW OF THE PARK TO PLAYA TRAIL
(Original figure extracted from the Park to Playa IS/MND)

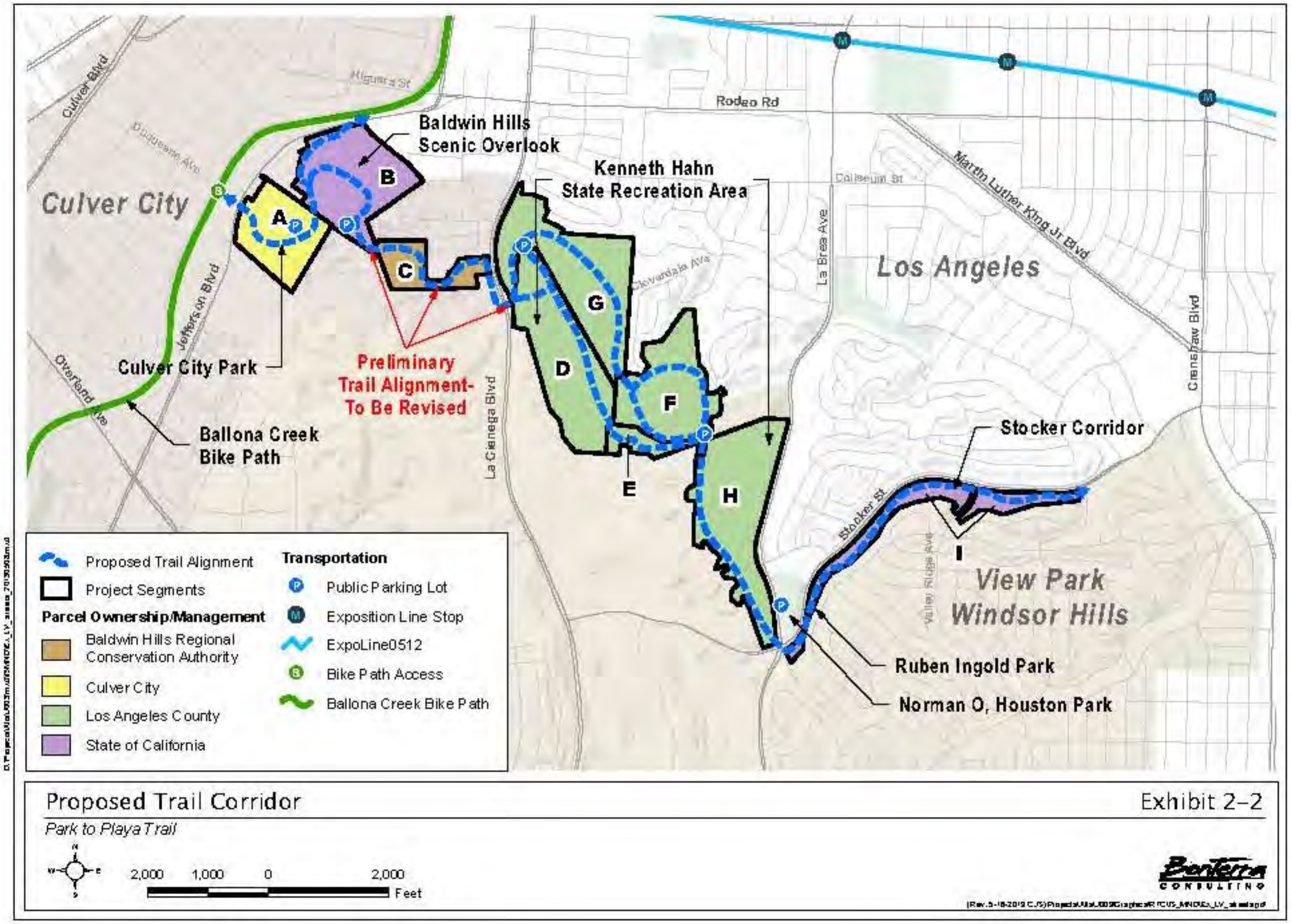

Figure 4.18-2
PARK TO PLAYA TRAIL SEGMENT C AREA
(Original figure extracted from the Park to Playa IS/MND)

The preliminary trail alignment and trail improvements for Segment C include a six-foot-wide natural surface trail proposed within the BHRCA property at Blair Hills, extending east from the proposed trail in the Baldwin Hills Scenic Overlook (Segment B) to the boundary of the proposed Stoneview Nature Center. The trail would continue south and then turn in an easterly direction toward La Cienega Boulevard. The proposed trail would then head south along La Cienega Boulevard, where retaining walls and a barrier fence would be provided along the western edge of the proposed trail.

An interpretive node is proposed near the southwestern corner of the proposed Stoneview Nature Center. This node would consist of seat walls, a planting area, and interpretive signage. A connection to the proposed Stoneview Nature Center is also proposed at the eastern edge of the project site as shown in **Figure 2.3-1**. This potential future access is intended for Park to Playa trail users that would visit the Stoneview Nature Center after construction. The Stoneview Nature Center is not designated as a trailhead for the Park to Playa Trail, and no parking for trail use is proposed. The nearest designated trailhead parking would be in Segment B and D as shown in **Figure 4.18-1**.

The Park to Playa IS/MND did not provide count projections of trail users for Segment C. Instead the IS/MND indicates that the trail would be passing through a relatively unimproved environment, and would not feature amenities or facilities, except for an overlook/rest area. Thus, it would likely be used by only a small fraction of the KHSRA and the Baldwin Hills Scenic Overlook users, which conservatively can be estimated at a maximum of a few dozen trail users per day. The anticipated extent of trail use would represent a fraction of the total park users, and is not projected to be so heavy or crowded that it would exceed the capacity of the trail as designed. Based on the determination that there would be a relatively limited number of trail users anticipated on the proposed trail in Segment C, count projections would not be necessary to evaluate the potential impacts of trail use.

There has been no comprehensive survey of the number of trail users within Culver City Park, Baldwin Hills Scenic Overlook, KHSRA, or Stocker Corridor. Park visitors at the KHSRA in 2012 were counted by the County Department of Parks with monthly totals varying from 1,192 visitors in December (an average of 38 visitors per day) up to 7,230 visitors in July (an average of 233 visitors per day). However, the KHSRA is a regional park with a wide variety of recreational facilities and features (i.e., picnic areas, a fishing lake, a Japanese Garden, a meeting room, playgrounds, sports fields, and trails) that make it a popular destination for park users. The Baldwin Hills Scenic Overlook is also a popular destination with developed facilities (i.e., trailhead, stairway, visitor center, trails, picnic area, and observation deck). The proposed Segment C trail is intended to connect the KHSRA and Baldwin Hills Scenic Overlook through the Blair Hills Corridor. The Stoneview Nature Center may be a waypoint along the trail, but is not a destination.

Segment C is being designed at a slower pace than other segments, and construction details have not been finalized for this second phase of the project. The BHRCA and the County will continue to work with local residents, property owners, the oilfield operator, Culver City, and other stakeholders to address concerns before the trail design for Segment C is finalized. Prior to final design and construction, the proposed trail in Segment C would be subject to additional environmental analysis and review.

Cumulative impacts related to parking are expected to be less than significant because the proposed Stoneview Nature Center is not marked as a trailhead or parking lot on any Park to Playa maps, the number of users along Segment C is expected to be small, and the traffic study found the number of proposed parking spaces for Stoneview Nature Center visitors to be more than sufficient. The County has set aside funds that may be used to mitigate parking impacts if parking proves to be an issue (**Appendix G**).

One Big Park

The proposed Stoneview Nature Center is adjacent to the One Big Park concept area (**Figure 4.18-3**). The One Big Park concept is part of the Baldwin Hills Park Master Plan, and will create an over two square mile zone within the Los Angeles urban core which allows natural habitat areas to coexist with recreational, educational, and cultural resources. The creation of one large land area will be achieved through the construction of a 1/2-mile long land bridge spanning La Cienega Boulevard. The land bridge will connect the east and west ridges over the existing six-lane roadway, creating one unified land area, restoring the historic landscape and establishing effective mitigation of visual and noise impacts from La Cienega Boulevard. An internal park road, footpaths and bicycle trails will provide access between the two currently bisected portions of the site. Wildlife will also be able to use the land bridge as an important connection between habitat areas, which will help the long-term sustainability of wildlife populations and natural habitat in the Baldwin Hills. Cumulative impacts are expected to be less than significant because the proposed Stoneview Nature Center is not an active part of the One Big Park concept.

c) Less Than Significant Impact With Mitigation.

Environmental impacts identified in this IS/MND have recommended mitigation measures that reduce impacts to a less than significant level. Mitigation measures are recommended in each respective section. No impacts have been identified as potentially significant.

Figure 4.18-3
ONE BIG PARK CONCEPT MAP
(Original figure extracted from Baldwin Hills Park Master Plan and modified to include Stoneview Nature Center)

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6.0 LIST OF PREPARERS

NAME	TITLE	DISCIPLINE/EXPERTISE	EXPERIENCE	ROLE IN PREPARING IS/MND
Susan Foster	Environmental Engineer	B.S., Civil Engineering	3 years of planning and engineering experience	Hydrology and Water Quality
Dan Herlihy, PG, CEG, CHG, QSP	Director of Operations	M.S. Geology B.S. Geology	30+ experience in environmental site assessment, geotechnical study, groundwater and soil	QA/AC, Geology & Soil, Hazards and Hazardous Materials, Hazardous Waste Assessment
Kelly Hickler	Project Manager	MURP B.A., Social Ecology	5 years of planning experience	Task Manager: Land Use & Planning, Biological Resources, Organizations & Persons Consulted, final document assembly
Jolee Hui	Environmental Planner	MCP B.A., Geography/Environmental Studies	3 years of planning experience	Geology & Soil, Hazards & Hazardous Materials, Population & Housing, Utilities and Service Systems, Public Services, Recreation
Ai-Viet Huynh	Associate Planner	MURP B.A., Economics	5 years of planning experience	Aesthetics, Agriculture & Forestry Resources, Mineral Resources
Steve O'Neil	Cultural Resource Manager	B.A., Anthropology; RPA M.A., Anthropology Landscape Consultant	30 years of experience in California with prehistoric archaeology and ethnography	Historical/Archaeological Biological Survey
Michael Rogozen	Senior Principal Engineer	B.S. Engineering M.S., Systems Engineering D. Env., Environmental Science & Engineering	37+ years air, noise, project management experience	QA/AC, Transport and Transportation
Mina Rouhi	Senior Planner/GIS Analyst	MURP B.S., Psychology & Social Behavior	4 years of planning experience	GIS
Shelah Spiegel	Word Processor	A.A. in Administration CNS	30 years of experience as legal assistant and word processor	Formatting
Benjamin Wong	Air/Noise Scientist	B.S. Environmental Engineering	2 years air, noise, and water resource analysis	Air Quality, Greenhouse Gas, Noise
Gregory Ziolkowski	GIS Technician	B.A. Geography	7 years of experience in GIS	GIS

APPENDICES

APPENDIX A

VISITOR ATTENDANCE AT COMPARABLE EXISTING UNITS

Natural Areas Annual Attendance for San Dimas Nature Center, Deane Dana Friendship Park and Nature Center and Whittier Narrows Nature Center

Annual Attendance Numbers for 2012

	San Dimas[1]	Deane Dana Friendship	Whittier Narrows
January	3,020	2,000	5,300
February	3,349	2,200	6,225
March	1,471	2,000	4,700
April	1,713	2,000	4,700
May	2,707	3,000	4,700
June	14,486	3,000	6,600
July	2,260	3,000	7,600
August	2,763	8,000	1,800
September	3,379	10,000	1,800
October	3,842	8,000	2,230
November	2,331	3,500	2,250
December	4,286	2,000	3,275
Totals	**45,607**	**48,700**	**51,180**

[1]The June attendance of 14,486 for San Dimas reflects a 2-day special event that generated 8,000-10,000 visitors.

APPENDIX B

AIR QUALITY TECHNICAL REPORT

AIR QUALITY ANALYSIS
FOR
STONEVIEW NATURE CENTER
COUNTY OF LOS ANGELES, CALIFORNIA

Prepared For:

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
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Irvine, California 92618-4355

Project No. 5892

May 2013

This analysis was prepared in accordance with Section 15063(d)(3) and Appendix G of the *State CEQA Guidelines* to determine the potential significant air quality effects on the physical environment that could result from the implementation of the proposed project.

Report Preparer:

Name & Title: BENJAMIN WONG, Air & Noise Scientist

Signature: ______________________ Date: ______________

Reviewed by:

Name & Title: MICHAEL ROGOZEN, Senior Principal Engineer

Signature: ______________________ Date: ______________

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1.0 INTRODUCTION

The proposed project involves the demolition of a formerly operated elementary school, and the construction of nature center, which would include a 4,000-square-foot, one-story community building, trails, yoga deck, and a native garden, on an approximately 5-acre site east of the Kenneth Hahn State Recreation Area and west of La Cienega Boulevard. **Figure 1** (Regional Location) shows the site in relation to the surrounding area. The immediate vicinity of the proposed project site is shown in **Figure 2** (Project Location Map).

The purpose of this report is to provide a detailed technical air quality analysis of the Stoneview Nature Center project (project). The report includes a description of federal, state, and local agencies that govern air quality, and their pertinent statutes and regulations. It then identifies potential impacts of air pollutants of concern for this project, including criteria pollutants (i.e., pollutants for which National Ambient Air Quality Standards [NAAQS] have been established by the U.S. Environmental Protection Agency).

Regional climate and meteorology, air quality monitoring data, and the area's attainment status with respect to criteria air pollutants are then discussed. The report describes regional air quality regulations, provides a description of the analytical methodologies and assumptions used for this study as well as the results of these analyses and proposed mitigation measures.

The air quality analysis was prepared in accordance with the *CEQA Air Quality Handbook* prepared by the South Coast Air Quality Management District (SCAQMD).[1]

[1] South Coast Air Quality Management District, *CEQA Air Quality Handbook*. (1993; Updated 2006).

Service Layer Credits: National Geographic, Esri, DeLorme, NAVTEQ, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, iPC; CDC, 2007; Census, 2010; UltraSystems Environmental Inc., 2013

April 23, 2013

Scale 1:633,600
1 Inch = 10 Miles

N

0 5 10 Miles

0 5 10 Kilometers

Legend

Project Location

Los Angeles County Boundary

California State Boundary

Figure 1
Regional Location

UltraSystems
environmental management planning

Figure 2
Project Location Map

2.0 PROJECT DESCRIPTION

The proposed project site is located in Culver City, on a 5-acre site west of the Kenneth Hahn State Recreation Area and west of La Cienega Boulevard. The proposed project involves the demolition of a formerly operated elementary school, and the construction of nature center, which would include a 4,000-square-foot, one-story community building, trails, yoga deck, and a native garden. The project site was formerly operated as an elementary school, and was acquired by the Baldwin Hills Regional Conservation Authority (BHRCA) in 2011.

The construction for the project is scheduled to begin in mid-2013, and to be completed by the end of 2014. The project will include demolition of the existing school site, grading (approximately 26,500 square yards), and construction of the community building and wooden yoga deck.

3.0 EXISTING CONDITIONS

3.1 Regional Climate

Air quality is affected by both the rate and location of pollutant emissions, and by meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and air quality.

The project site is located in the Culver City, which lies within the South Coast Air Basin (SCAB), which includes all of Orange County and the non-desert portions of Los Angeles County, most of the Riverside County, and the western portion of San Bernardino County─including some portions of what was previously known as the Southeast Desert Air Basin. The distinctive climate of the SCAB is determined by its terrain and geographic location. The SCAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest and high mountains around its remaining perimeter. The general region lies in the semi-permanent high pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.

The vertical dispersion of air pollutants in the SCAB is hampered by the presence of persistent temperature inversions. An upper layer of dry air that warms as it descends characterizes high-pressure systems, such as the semi-permanent high-pressure zone in which the SCAB is located. This upper layer restricts the mobility of cooler marine-influenced air near the ground surface and results in the formation of subsidence inversions. Such inversions restrict the vertical dispersion of air pollutants released into the marine layer and, together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog.

The atmospheric pollution potential of an area is largely dependent on winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 mph, smog potential is greatly reduced.[2]

The annual average temperature, as recorded at Culver City (2.3 miles southwest of the proposed project site at 34.00472° N, 118.415° W), is 63 degrees Fahrenheit (°F) with an average winter (December, January, and February) temperature of approximately 57°F and an average summer (June, July, and August) temperature of approximately 69°F. The average maximum recorded temperatures are 77°F during the summer and 67°F during the winter.[3] The annual average of total precipitation in the proposed project area is approximately 13.2 inches, which occurs mostly during the winter and relatively infrequently during the summer. Precipitation averages approximately 8.1 inches during the winter, approximately 3.1 inches during the spring (March, April, and May), approximately 1.9 inches during the fall (September,

[2] South Coast Air Quality Management District (SCAQMD), *CEQA Air Quality Handbook*, April 1993, p. A8-1.

[3] Western Regional Climate Center. Updated 31 March 2013. "Western U.S. Climate Historical Summaries." Web site. Available at: http://www.wrcc.dri.edu/coopmap/

October, and November), and approximately 0.1 inch during the summer.[4] Winds in the Basin are generally light, tempered by afternoon sea breezes. Severe weather is uncommon in the Basin, but strong easterly winds known as the Santa Ana winds can reach 25 to 35 miles per hour below the passes and canyons. During the spring and summer months, air pollution is carried out of the region through mountain passes in wind currents or is lifted by the warm vertical currents produced by the heating of the mountain slopes. From the late summer through the winter months, because of the average lower wind speeds and temperatures in the proposed project area and its vicinity, air contaminants do not readily disperse, thus trapping air pollution in the area.

3.2 Regulatory Setting

Federal, state, and local agencies have set ambient air quality standards for certain air pollutants through statutory requirements and have established regulations and various plans and policies to maintain and improve air quality, as described below.

3.2.1 Pollutants of Concern

Criteria Pollutants

The criteria air pollutants of concern are nitrogen dioxide (NO_2), carbon monoxide, particulate matter, sulfur dioxide, lead, and ozone, and their precursors. Criteria pollutants are air pollutants for which acceptable levels of exposure can be determined and an ambient air quality standard has been established by the U.S. Environmental Protection Agency (USEPA) and/or the California Air Resources Board (CARB). Since the proposed project would not generate appreciable sulfur dioxide (SO_2) or lead (Pb) emissions,[5] it is not necessary for the analysis to include those two pollutants. Presented below is a description of the air pollutants of concern and their known health effects.

Nitrogen oxides (NO_x) serve as integral participants in the process of photochemical smog production, and are precursors for certain particulate compounds that are formed in the atmosphere. The two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO_2). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown pungent gas formed by the combination of NO and oxygen. NO_2 acts as an acute respiratory irritant and eye irritant, and increases susceptibility to respiratory pathogens. A third form of NO_x, nitrous oxide (N_2O), is a greenhouse gas (GHG).

Carbon monoxide (CO) is a colorless, odorless non-reactive pollutant produced by incomplete combustion of carbon substances (e.g., gasoline or diesel fuel). The primary adverse health effect associated with CO is its binding with hemoglobin in red blood cells, which decreases the ability of these cells to transport oxygen throughout the body. Prolonged exposure can cause headaches, drowsiness, or loss of equilibrium; high concentrations are lethal.

4 Western Regional Climate Center. Updated 31 March 2013. "Western U.S. Climate Historical Summaries." Web site. Available at: http://www.wrcc.dri.edu/coopmap/

5 At worst case sulfur dioxide emissions will be approximately 0.08 pound per day.

Particulate matter (PM) consists of finely divided solids or liquids, such as soot, dust, aerosols, fumes and mists. Two forms of fine particulate matter are now regulated. Respirable particles, or PM_{10}, include that portion of the particulate matter with an aerodynamic diameter of 10 micrometers (i.e., 10 one-millionths of a meter or 0.0004 inch) or less. Fine particles, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 micrometers (i.e., 2.5 one-millionths of a meter or 0.0001 inch) or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind action on the arid landscape also contributes substantially to the local particulate loading. Fossil fuel combustion accounts for a significant portion of $PM_{2.5}$. In addition, particulate matter forms in the atmosphere through reactions of NO_x and other compounds (such as ammonia) to form inorganic nitrates. Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems.

Reactive organic gases (ROG) are compounds comprised primarily of atoms of hydrogen and carbon that have high photochemical reactivity. The major source of ROG is the incomplete combustion of fossil fuels in internal combustion engines. Other sources of ROG include the evaporative emissions associated with the use of paints and solvents, the application of asphalt paving and the use of household consumer products. Adverse effects on human health are not caused directly by ROG, but rather by reactions of ROG to form secondary pollutants. ROG are also transformed into organic aerosols in the atmosphere, contributing to higher levels of fine particulate matter and lower visibility. The term "ROG" is used by the CARB for air quality analysis and is defined the same as the federal term "volatile organic compound" (VOC).

Ozone (O_3) is a secondary pollutant produced through a series of photochemical reactions involving ROG and NO_x. O_3 creation requires ROG and NO_x to be available for approximately three hours in a stable atmosphere with strong sunlight. Because of the long reaction time, peak ozone concentrations frequently occur downwind of the sites where the precursor pollutants are emitted. Thus, O_3 is considered a regional, rather than a local, pollutant. The health effects of O_3 include eye and respiratory irritation, reduction of resistance to lung infection and possible aggravation of pulmonary conditions in persons with lung disease. O_3 is also damaging to vegetation and untreated rubber.

3.2.2 Applicable Air Quality Regulations

Federal Regulations

The Federal Clean Air Act (CAA), passed in 1970, established the national air pollution control program. The basic elements of the CAA are the National Ambient Air Quality Standards (NAAQS) for criteria air pollutants, hazardous air pollutants standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The NAAQS are the maximum allowable concentrations of criteria pollutants, over specified averaging periods, to protect human health. The CAA requires that the U.S. Environmental Protection Agency (USEPA) establish NAAQS and reassess, at least every five years, whether they are adequate to protect public health, based on current scientific evidence. The NAAQS are divided into primary and secondary standards; the former are set to protect human health within an adequate margin of safety, and the latter to protect environmental values, such as plant and animal life.

Data collected at permanent monitoring stations are used by the USEPA to classify regions as "attainment" or "nonattainment," depending on whether the regions met the requirements stated in the primary NAAQS. Nonattainment areas are subject to additional restrictions, as required by the USEPA.

The CAA Amendments in 1990 substantially revised the planning provisions for those areas not currently meeting NAAQS. The Amendments identify specific emission reduction goals that require both a demonstration of reasonable further progress and attainment, and incorporate more stringent sanctions for failure to attain the NAAQS or to meet interim attainment milestones.

State Regulations

The State of California began to set California ambient air quality standards (CAAQS) in 1969 under the mandate of the Mulford-Carrell Act. There were no attainment deadlines for the CAAQS originally. However, the state legislature passed the California Clean Air Act (California CAA) in 1988 to establish air quality goals, planning mechanisms, regulatory strategies, and standards of progress to promote their attainment. The CARB, which became part of the California Environmental Protection Agency (Cal EPA) in 1991, is responsible for ensuring implementation of the California CAA, responding to the federal CAA, and for regulating emissions from motor vehicles and consumer products.

The California CAA requires attainment of CAAQS by the earliest practicable date. The state standards are generally more stringent than the corresponding federal standards. Attainment plans are required for air basins in violation of the state O_3, PM_{10}, CO, SO_2, or NO_2 standards. Responsibility for achieving state standards is placed on the CARB and local air pollution control districts. District plans for nonattainment areas must be designed to achieve a 5-percent annual reduction in emissions. Preparation of and adherence to attainment plans are the responsibility of the local air pollution districts or air quality management districts.

Table 1 (Ambient Air Quality Standards for Criteria Air Pollutants) lists the NAAQS and CAAQS for criteria pollutants.

Table 1 - Ambient Air Quality Standards for Criteria Air Pollutants

Pollutant	Averaging Time	California Standards[a]		Federal Standards [b]		
		Concentration[c]	Method[d]	Primary[c,e,k]	Secondary [c,f]	Method[g]
Ozone (O_3)	1 Hour	0.09 ppm ($180\ \mu g/m^3$)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm ($137\ \mu g/m^3$)		0.075 ppm ($147\ \mu g/m^3$)		
Respirable Particulate Matter (PM_{10})	24 Hour	$50\ \mu g/m^3$	Gravimetric or Beta Attenuation	$150\ \mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	$20\ \mu g/m^3$		—		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		$35\ \mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	$12\ \mu g/m^3$	Gravimetric or Beta Attenuation	$12\ \mu g/m^3$	$15\ \mu g/m^3$	
Carbon Monoxide (CO)	8 Hour	9 ppm ($10\ mg/m^3$)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm ($10\ mg/m^3$)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm ($23\ mg/m^3$)		35 ppm ($40\ mg/m^3$)		
	8 Hour (Lake Tahoe)	6 ppm ($7\ mg/m^3$)		—	—	—
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm ($57\ \mu g/m^3$)	Gas Phase Chemiluminescence	0.053 ppm ($100\ \mu g/m^3$)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm ($339\ \mu g/m^3$)		0.1 ppm ($188\ \mu g/m^3$)	None	
Sulfur Dioxide (SO_2)	24 Hour	0.04 ppm ($105\ \mu g/m^3$)	Ultraviolet Fluorescence	—	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm ($1300\ \mu g/m^3$)	
	1 Hour[h]	0.25 ppm ($655\ \mu g/m^3$)		0.075 ppm ($196\ \mu g/m^3$)	—	
Lead[i]	30 Day Average	$1.5\ \mu g/m^3$	Atomic Absorption	—	—	—
	Calendar Quarter	—		$1.5\ \mu g/m^3$	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average[j]	—		$0.15\ \mu g/m^3$		
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer–visibility of 10 miles or more (0.07 – 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70%. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates	24 Hour	$25\ \mu g/m^3$	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm ($42\ \mu g/m^3$)	Ultraviolet Fluorescence			
Vinyl Chloride[i]	24 Hour	0.01 ppm ($26\ \mu g/m^3$)	Gas Chromatography			

a. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter–-PM_{10}, $PM_{2.5}$, and visibility reduction particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
b. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.
c. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
d. Any equivalent procedure which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.
e. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
f. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
g. Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by USEPA.
h. On June 2, 2010, the USEPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The USEPA also revoked both the existing 24-hour SO_2 standard of 0.14 ppm and the annual primary SO_2 standard of 0.030 ppm, effective August 23, 2010.
i. The CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
j. National lead standard, rolling 3-month average: final rule signed October 15, 2008.
k. As of December 14, 2012, the annual primary $PM_{2.5}$ standard changed from 15 $\mu g/m^3$ to 12 $\mu g/m^3$

Source: California Air Resources Board, "Ambient Air Quality Standards." Internet URL: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. (June 7, 2012).

U.S. EPA, "National Ambient Air Quality Standards (NAAQS)." Internet URL: http://www.epa.gov/air/criteria.html. (December 14, 2012).

3.2.3 Air Quality Plans

The SCAQMD is required to produce plans to show how air quality will be improved in the region. The CCAA requires that these plans be updated triennially to incorporate the most recent available technical information.[6] A multi-level partnership of governmental agencies at the federal, state, regional, and local levels implements the programs contained in these plans. Agencies involved include the USEPA, CARB, local governments, Southern California Association of Governments (SCAG), and SCAQMD. The SCAQMD and the SCAG are responsible for formulating and implementing the AQMP for the SCAB. The SCAQMD updates its AQMP every three years. The 2012 AQMP, which is the latest, was adopted by the SCAQMD Board on December 6, 2012 and submitted to the CARB and the USEPA for concurrent review on December 20, 2012.[7] The plan identifies control measures needed to demonstrate attainment with the federal 24-hour standard for $PM_{2.5}$ by 2014 in the South Coast Air Basin. In addition, the 2012 AQMP provides updates on progress towards meeting the 8-hour ozone standard for 2023, an attainment demonstration for the revoked 1-hour ozone standard, a vehicle miles traveled (VMT) offset demonstration for ozone standards, and a report on the health effects of $PM_{2.5}$.

On January 25, 2013 the CARB approved the South Coast 2012 AQMP as an amendment to the State Implementation Plan.[8]

6 CCAA of 1988.
7 Letter from Barry Wallerstein, Executive Director, South Coast Air Quality Management District to James Goldstene, Executive Officer, California Air Resources Board and Deborah Jordan, Air Division Director, U.S. Environmental Protection Agency, Region IX. December 20, 2012.
8 State of California, Air Resources Board, "South Coast Air Basin 2012 PM2.5 and Ozone State Implementation Plans," Resolution 13-3. January 25, 2013.

3.2.4 Local Regulations

The project site is located within the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is the local agency responsible for monitoring air quality, as well as planning, implementing and enforcing programs designed to attain and maintain NAAQS and CAAQS over the region. The main activity to which SCAQMD rules apply is construction.

SCAQMD Rule 403 (Fugitive Dust) applies to any activities, such as construction, capable of generating fugitive dust (demolition, excavation, etc.). The purpose of Rule 403 is to "reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions."[9] Fugitive dust is defined as "any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person."[10] "Active Operations" include "any source capable of generating fugitive dust, including but not limited to, earth moving activities, construction/demolition activities, disturbed surface area, or heavy- and light-duty vehicular movement."[11]

Requirements for All Construction Projects

The following requirements apply to all construction projects, regardless of the size of their disturbed areas:[12]

- No person shall cause or allow emissions of fugitive dust to remain visible in the atmosphere beyond the property line of the emission source or to exceed 20 percent opacity if the dust emission is a result of a moving motorized vehicle.

- Apply applicable Best Available Control Measures (BACM) in Table 1 of Rule 403 to minimize fugitive dust emissions during active operation.[13]

- No person shall cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter when determined as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other USEPA approved equivalent method for PM_{10} monitoring at the project limits for a five-hour period during the time of Active Operations.[14] Sampling will only occur if a complaint is reported to the SCAQMD, in which case the decision to conduct sampling will be made by SCAQMD, and SCAQMD will conduct sampling.

9 SCAQMD Rule 403(a), as Amended June 3, 2005.
10 SCAQMD Rule 403(c), as Amended June 3, 2005.
11 Ibid.
12 SCAQMD Rule 403(d), as Amended June 3, 2005.
13 SCAQMD Rule 403(d)(2), as Amended June 3, 2005.
14 SCAQMD Rule 403(d)(3), as Amended June 3, 2005.

- No person shall allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation, and all track-out from an active operation shall be removed at the conclusion of each workday or evening shift.[15]

- No person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without at least one of the measures listed under (D)(5) of Rule 403 at each vehicle egress.[16]

Requirements for Large Operations

When the disturbed surface area of a project site is expected to reach 50 acres, it is necessary to submit a Rule 403 Notification indicating that the project will be considered a "large operation" as defined in Rule 403(c)(21). It will then be necessary to implement the applicable actions specified in Table 2 of Rule 403 at all times and to implement the applicable actions specified in Table 3 of Rule 403 when the applicable performance standards cannot be met through use of Table 2 actions.[17] As part of the project scope, the applicant will:[18]

- Submit a fully executed Large Operation Notification (Form 403 N) to the Executive Officer[19] of SCAQMD within seven days of qualifying as a large operation.

- Include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site.

- Maintain daily records to document the specific dust control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request.

- Install and maintain project signage with project contact signage that meets the minimum standards of Rule 403 Implementation Handbook,[20] prior to initiating any earthmoving activities.

- Identify a dust control supervisor that:

  - is employed by or contracted by the applicant;

  - is on the site or available on-site within 30 minutes during working hours;

  - has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements;

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15 SCAQMD Rule 403(d)(4), as Amended June 3, 2005.
16 SCAQMD Rule 403(d)(5), as Amended June 3, 2005.
17 SCAQMD Rule 403(e), as Amended June 3, 2005.
18 Ibid.
19 Mr. Hugh Heney, Supervising AQ Inspector, (909)-396-2372, is the SCAQMD point of contact regarding Rule 403 notifications.
20 Made available to the dust control supervisor after taking SCAQMD Fugitive Dust Control Class.

- has completed the SCAQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class

- Notify the Executive Officer in writing within 30 days after the site no longer qualifies as a large operation as defined by Rule 403(c)(18).

Note that any Large Operation Notification submitted to the Executive Officer is valid for a period of one year from the date of written acceptance by the Executive Officer. Any Large Operation Notification accepted pursuant to Rule 403(e)(1) must be resubmitted annually at least 30 days prior to the expiration date, or the submittal shall no longer be valid as of the expiration date. If all fugitive dust sources and corresponding control measures or special circumstances remain identical to those identified in the previously accepted submittal, the resubmittal may be a simple statement of no-change (Form 403NC).[21]

3.3 Regional Air Quality

Table 2 (Federal and State Attainment Status) shows the area designation status of the SCAB for each criteria pollutant for both the NAAQS and CAAQS. Based on regional monitoring data, the SCAB is currently designated as a non-attainment area for O_3, PM_{10} and $PM_{2.5}$; a federal maintenance area for CO and NO_2; and an attainment area for SO_2.[22] Designation of the SCAB as a maintenance area means that, although the Basin has achieved compliance with the NAAQS for CO and NO_2, control strategies that were used to achieve compliance must continue. The Federal ozone classification is "extreme."[23] An extreme non-attainment area has an 8-hour ozone design value of 0.187 ppm,[24] and has the attainment deadline of June 15, 2024.

21 SCAQMD Rule 403(e)(2), as Amended June 3, 2005.

22 According to the SCAQMD, the "Basin has met the PM_{10} standards at all stations and a request for re-designation to attainment is pending with U.S. EPA." (SCAQMD Board Meeting, December 7, 2012, Agenda Item 30, p. 6.)

23 U.S. Environmental Protection Agency. 2011. "8-Hour Ozone Nonattainment State/Area/County Report." Green Book. http://www.epa.gov/air/oaqps/greenbook/gncs.html#CALIFORNIA. Updated December 14, 2012.

24 U.S. Environmental Protection Agency. 2011. "Designations." Green Book. www.epa.gov/air/oaqps/greenbook/define.html. Updated August 30, 2011.

Table 2 - Federal and State Attainment Status

Pollutants	Federal Classification	State Classification
Ozone (O_3)	Non-Attainment (Extreme)	Non-Attainment
Particulate Matter (PM_{10})	Non-Attainment (Serious)[25]	Non-Attainment
Fine Particulate Matter ($PM_{2.5}$)	Non-Attainment	Non-Attainment
Carbon Monoxide (CO)	Maintenance	Attainment
Nitrogen Dioxide (NO_2)	Maintenance	Non-Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment

Sources:

U.S. Environmental Protection Agency, "California 8-Hour Ozone Nonattainment Areas in Blue Borders." Green Book. [www.epa.gov/air/oaqps/greenbook/ca8.html]. Updated December 14, 2012;

U.S. Environmental Protection Agency, "Counties Designated Nonattainment for PM-10." Green Book. [http://www.epa.gov/air/oaqps/greenbook/map/mappm10.pdf]. Accessed April 24, 2013;

California Air Resources Board, "Area Designations Maps/State and National." [www.arb.ca.gov/desig/adm/adm.htm]. Accessed April 24, 2013.

3.4 Local Air Quality

The SCAQMD has divided the Basin into source receptor areas (SRAs), based on similar meteorological and topographical features. The proposed project site is located in SCAQMD's Northwest Coastal LA County SRA 2, which is served by the West Los Angeles – VA Hospital Monitoring Station, located 5 miles northwest of the proposed project site at 11301 Wilshire Boulevard #6005, Los Angeles, CA 90073. Criteria pollutants monitored at the West Los Angeles – VA Hospital Monitoring Station include O_3, NO_2, and CO. This station does not monitor PM_{10}, $PM_{2.5}$, or CO. The nearest, most representative monitoring station that gathers PM_{10} and $PM_{2.5}$ data is located approximately 9.3 miles northeast of the proposed project site at 1630 N Main Street, Los Angeles, CA 90012 (North Main Street Monitoring Station). The nearest, most representative monitoring station that gathers SO_2 data is located approximately 4.8 miles southwest of the proposed project site at 7201 W Westchester Parkway, Los Angeles, CA 90045 (Los Angeles – Westchester Pkwy). The ambient air quality data in the proposed project vicinity as recorded at the West Los Angeles – VA Hospital, North Main Street, Reseda, and Los Angeles – Westchester Pkwy Monitoring Stations from 2009 to 2011 and the applicable state standards are shown in **Table 3** (Ambient Air Quality Monitoring Data).

3.5 Sensitive Receptors

Some people, such as individuals with respiratory illnesses or impaired lung function because of other illnesses, the elderly over 65 years of age, and children under 14, are particularly sensitive to certain pollutants. Facilities and structures where these sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses identified to be sensitive receptors by SCAQMD in the CEQA Handbook include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Sensitive receptors may be at risk of being affected by air emissions released from the construction and operation of the proposed project.

[25] On April 8, 2013, the U.S. Environmental Protection Agency proposed changing the PM_{10} attainment status to "Attainment" (78 Federal Register 20868-20881).

The proposed project would be located in Culver City, near several existing single-family residences. Exposure to potential emissions would vary substantially from day to day, depending on the amount of work being conducted, the weather conditions, the location of receptors, and the length of time that receptors would be exposed to air emissions. The construction phase emissions estimated in this analysis are based on conservative estimates and worst-case conditions, with maximum levels of construction activity occurring simultaneously within a short period of time. The nearest sensitive receptors to the proposed project site, with the highest potential to be impacted by the proposed project are listed below in **Table 4**, (Sensitive Receptors Near Project Site).

Table 3 - Ambient Air Quality Monitoring Data

Air Pollutant	Standard/Exceedance	2009	2010	2011
Carbon Monoxide (CO)	Year Coverage	96%	99%	95%
	Max. 1-hour Concentration (ppm)	2	2	ND
	Max. 8-hour Concentration (ppm)	1.51	1.44	1.74
	# Days > Federal 1-hour Std. of 35 ppm	0	0	0
	# Days > Federal 8-hour Std. of 9 ppm	0	0	0
	# Days > California 8-hour Std. of 9.0 ppm	0	0	0
Ozone (O_3)	Year Coverage	99%	96%	92%
	Max. 1-hour Concentration (ppm)	0.131	0.099	0.098
	Max. 8-hour Concentration (ppm)	0.095	0.079	0.069
	# Days > Federal 8-hour Std. of 0.075 ppm	3	1	0
	# Days > California 1-hour Std. of 0.09 ppm	6	2	2
	# Days > California 8-hour Std. of 0.07 ppm	5	3	0
Nitrogen Dioxide (NO_2)	Year Coverage	93%	97%	96%
	Max. 1-hour Concentration (ppm)	0.077	0.071	0.081
	Annual Average (ppm)	0.017	0.016	0.016
	# Days > California 1-hour Std. of 0.18 ppm	0	0	0
Sulfur Dioxide (SO_2)[a]	Year Coverage	95%	88%	100%
	Max. 24-hour Concentration (ppm)	0.003	0.005	0.001
	Annual Average (ppm)	0.001	0.001	0.000
	# Days > California 24-hour Std. of 0.04 ppm	0	0	0
Respirable Particulate Matter (PM_{10})[b]	Year Coverage	99%	94%	97%
	Max. 24-hour Concentration (μg/m^3)	72.0	42.0	53.0
	#Days > Fed. 24-hour Std. of 150 μg/m^3	0.0	0.0	0.0
	#Days > California 24-hour Std. of 50 μg/m^3	24.1	ND	6.5
	Annual Average (μg/m^3)	33.1	27.1	29.0
Fine Particulate Matter ($PM_{2.5}$)[b]	Year Coverage	100%	100%	97%
	Max. 24-hour Concentration (μg/m^3)	61.6	48.6	69.2
	State Annual Average (μg/m^3)	15.6	12.6	13.3
	#Days > Fed. 24-hour Std. of 35 μg/m^3	7.0	5.0	8.1
	Federal Annual Average (μg/m^3)	14.4	12.6	13.5

Source:
California Air Resources Board, "iADAM Air Quality Data Statistics." Internet URL: http://www.arb.ca.gov/adam/ (April 23, 2013)

South Coast Air Quality Management District, "Historical Data by Year." Internet URL: http://www.aqmd.gov/smog/historicaldata.htm (April 23, 2013)

ND - There was insufficient (or no) data available to determine the value.
[a] The West Los Angeles – VA Hospital Monitoring Station does not test for SO_2, therefore, the nearest station that tests for this pollutant is at Westchester Parkway (7201 W. Westchester Pkwy., Los Angeles, CA 90045).
[b] The West Los Angeles – VA Hospital Monitoring Station does not test for PM_{10} or $PM_{2.5}$, therefore, the nearest station that tests for these pollutants is at Los Angeles – North Main Street (1630 N. Main St., Los Angeles, CA 90012).

Table 4 – Sensitive Receptors Near Project Site

	Sensitive Receptor Name	Location	Distance from Proposed Project (Feet)
1	Single-Family Residence	5924 Stoneview Drive	47
2	Single-Family Residence	5922 Stoneview Drive	63
Source: UltraSystems with Google Earth. 2013.			

4.0 AIR QUALITY IMPACTS ANALYSIS

This analysis was prepared in accordance with Appendix G of the California Environmental Quality Act (CEQA) Guidelines, and with the SCAQMD *CEQA Air Quality Handbook*. Air quality impacts are typically divided into short-term and long-term impacts. Short-term impacts are associated with construction activities, such as site grading, excavation, and building construction of a proposed project. Long-term impacts are associated with the operation of a proposed project upon its completion.

4.1 CEQA Impact Review Criteria

In accordance with *State CEQA Guidelines* Appendix G, implementation of the proposed project would result in a potentially significant impact if it were to:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

Where available, the significance criteria established by the applicable air quality management district (AQMD) or air pollution control district (APCD) may be relied upon to make the significance determinations. As will be discussed in the next section, the SCAQMD has developed a *CEQA Air Quality Handbook* to provide a protocol for air quality analyses that are prepared under the requirements of CEQA.

4.1.1 Emission Thresholds for Regional Air Quality Impacts

The SCAQMD has developed criteria for determining whether emissions from a project are regionally significant. They are useful for estimating whether a project is likely to result in a violation of the NAAQS and/or whether the project is in conformity with plans to achieve attainment. The SCAQMD no longer has "indirect source" rules, e.g. rules that place restrictions on housing or commercial development, or require reductions in trip generation and/or vehicle miles traveled to developed commercial or industrial sites.[26] Instead, the District has published guidance on conducting air quality analyses under CEQA.[27] SCAQMD's significance thresholds are summarized in **Table 5** (SCAQMD Emissions Thresholds for Significant Regional Impacts) for criteria pollutant emissions during construction activities and project operation. A project is considered to have a regional air quality impact if emissions from its construction and/or operational activities exceed the corresponding SCAQMD significance thresholds.

Table 5 - SCAQMD Emissions Thresholds for Significant Regional Impacts

Pollutant	Mass Daily Thresholds (Pounds/Day)	
	Construction	Operation
Nitrogen Oxides (NOx)	100	55
Volatile Organic Compounds (VOC)	75	55
Respirable Particulate Matter (PM10)	150	150
Fine Particulate Matter (PM2.5)	55	55
Sulfur Oxides (SOx)	150	150
Carbon Monoxide (CO)	550	550
Lead	3	3

Source: "SCAQMD Air Quality Significance Thresholds." 2011. Diamond Bar, CA: South Coast Air Quality Management District, www.aqmd.gov/ceqa/handbook/signthres.pdf. March 2011. Accessed April 24, 2013.

4.1.2 Emission Thresholds for Localized Air Quality Impacts

As part of its environmental justice program to address localized air quality impacts of a development project, SCAQMD developed localized significance thresholds (LSTs) in 2003.[28] LSTs represent the maximum NO_x, CO, PM_{10}, and $PM_{2.5}$ emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard. NO_x and CO LSTs are developed based on the ambient concentrations of that pollutant for each SRA and distance to the nearest off-site receptor. For PM_{10}, LSTs were derived based on requirements in SCAQMD Rule 403. Note that LST does not apply to ROG emissions, since there is no ambient air quality standard for ROG.

[26] Two indirect source rules (1501 - Work Trip Reduction Plans and 1501.1 - Alternatives to Work Trip Reduction Plans) were repealed in 1995.

[27] South Coast Air Quality Management District, CEQA Air Quality Handbook. Diamond Bar, California. 1993. Updated 2006.

[28] Chico, T. and Koizumi, J. *Final Localized Significance Threshold Methodology*. South Coast Air Quality Management District, Diamond Bar, California. June 2003.

For the purposes of a CEQA analysis, the SCAQMD considers a sensitive receptor to be a receptor such as a residence, hospital, or convalescent facility where it is possible that an individual could remain for 24 hours. Commercial and industrial facilities are not included in the definition of sensitive receptor, because employees typically are present for shorter periods of time, such as eight hours. Therefore, applying a 24-hour standard for PM_{10} is appropriate not only because the averaging period for the state standard is 24 hours, but because the sensitive receptor would be present at the location for the full 24 hours.

The SCAQMD has developed mass rate look-up tables that can be used to determine whether a project may generate significant localized air quality impacts to off-site receptors (including sensitive receptors). Note that the use of LSTs is voluntary, to be implemented at the discretion of the lead agency pursuant to CEQA.

4.1.3 Impacts of Carbon Monoxide Hotspots

The significance of localized project operational impacts is evaluated through a CO hotspot analysis. Hotspots are elevated concentrations of CO in small areas (mainly street intersections) that result from motor vehicle emissions in heavy traffic. They are analyzed because of their potentially significant effect on sensitive receptors. Adherence to the CAAQS or NAAQS is typically demonstrated through an analysis of localized (micro scale) CO concentrations. When ambient levels are below the state or federal CO standards excluding all project emissions, a project is considered to have significant impacts if project-related emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a state or federal standard, project emissions are considered significant if they increase one-hour CO concentrations by 1.0 ppm or more or eight-hour CO concentrations by 0.45 ppm or more.[29]

4.2 Methodology

Estimated criteria pollutants from the project's on-site and off-site project activities were calculated using the California Emissions Estimator Model (CalEEMod). CalEEMod is a planning tool for estimating emissions related to land use projects. The model incorporates EMFAC2007 emission factors to estimate on-road vehicle emissions; and emission factors and assumptions from the CARB's OFFROAD2007 model to estimate off-road construction equipment emissions.[30] Model-predicted project emissions are compared with applicable thresholds to assess regional air quality impacts. Operational emissions are estimated using CalEEMod and take into account area emissions, such as space heating, from land uses and from the vehicle trips associated with the land uses. When applicable, the potential for the project to contribute to CO hotspots is assessed using the CALINE4 model.[31]

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29 SCAQMD. 1993. *CEQA Air Quality Handbook.* April.

30 *California Emissions Estimator Model User's Guide Version 2011.1.1.* Prepared by Environ International Corporation, Emeryville, California for South Coast Air Quality Management District, Diamond Bar, California (February, 2011).

31 California Department of Transportation. 1989. *CALINE4 Manual.* June.

4.3 Air Quality Impacts

4.3.1 Short-Term Impacts

Project construction activities will generate short-term air quality impacts. Construction emissions can be distinguished as either on-site or off-site. On-site air pollutant emissions consist principally of exhaust emissions from off-road heavy-duty construction equipment, as well as fugitive particulate matter from earthworking and material handling operations. Off-site emissions result from workers commuting to and from the job site, as well as from trucks hauling materials to the site and construction debris for disposal.

Proposed Project

The analysis focused upon the construction for the development of the proposed nature center. Project construction emissions were estimated using the construction module of CalEEMod. For the purpose of this analysis, it was estimated that the construction of the proposed project would begin in mid-2013 and take approximately 15 months to complete.[32] Estimates of the types and numbers of pieces of equipment anticipated in each phase of construction and development were based on equipment requirements of similar park construction projects, and CalEEMod defaults. Equipment exhaust emissions were determined using CalEEMod's default values for horsepower and load factors, which are from the CARB's OFFROAD2007 model. **Table 6** (Proposed Project: Maximum Daily Construction Emissions) summarizes the results of the modeling.

Table 6 – Proposed Project: Maximum Daily Construction Emissions

Construction Activity	Maximum Emissions (lbs/day)				
	ROG	**NO_x**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Maximum Cumulative Emissions (Unmitigated)	9.15	72.62	44.71	14.98	9.36
Maximum Cumulative Emissions (Mitigated)	9.15	72.62	44.71	6.62	4.76
Construction Activities	Demolition - 2013	Site Preparation - 2013	Site Preparation - 2013	Site Preparation - 2013	Site Preparation - 2013
SCAQMD Significance	*75*	*100*	*550*	*150*	*55*
Significant - Unmitigated	**No**	**No**	**No**	**No**	**No**
Significant - Mitigated	**No**	**No**	**No**	**No**	**No**
Source: Calculated by UltraSystems with CalEEMod (Version 2011.1.1).					

Both unmitigated and mitigated daily emissions for all the criteria pollutants do not exceed their respective SCAQMD significance thresholds.

[32] Email correspondence from Alioune Dioum, Project Manager, Los Angeles County Department of Public Works, Alhambra, California to Kelly Hickler, Associate Project Manager, UltraSystems Environmental Inc., Irvine, California. April 19, 2013.

All modeling output files and additional assumptions are provided in **Appendix A**.

4.3.2 Long-Term Impacts

The primary source of operational emissions would be vehicle exhaust emissions generated from project-induced vehicle trips, known as "mobile source emissions." Other emissions, identified as "energy source emissions," would be generated from energy consumption for water and space heating for the nature center building, while "area source emissions," would be generated from structural maintenance and landscaping activities, and use of consumer products.

Operational emissions from the proposed project (2014) and operating school site (2010) were estimated using the operational module of CalEEMod.[33] The vehicle trip generation rates of the proposed project and operating school site were obtained from default values in CalEEMod that are based on land use definitions published by the Institute of Transportation Engineers (ITE).[34] In addition, default values generated by CalEEMod, including the expected vehicle fleet mix, and vehicle traveling speed and distance assumptions, were used in each model run. The model-predicted area source, energy source, and mobile source emissions for the proposed project are presented in **Table 7** (Proposed Project vs. School Site: Daily Project Operational Emissions). Detailed output sheets are provided in **Appendix A**.

[33] Communication between Alioune Dioum, Project Manager, Los Angeles County Department of Public Works, Alhambra, CA to Kelly Hickler, Associate Project Manager, UltraSystems Environmental Inc., Irvine, CA. April 24, 2013.

[34] Institution of Transportation Engineers. *Trip Generation*, 8th Edition. 2008.

Table 7 – Proposed Project vs. School Site: Daily Project Operational Emissions

Emissions Source	Pollutant (lbs/day)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Proposed Project (2014)					
Area Source Emissions	0.57	0.00	0.00	0.00	0.00
Energy Source Emissions	0.00	0.02	0.02	0.00	0.00
Mobile Source Emissions	1.09	2.60	9.85	1.77	0.16
Total Operational Emissions	**1.66**	**2.62**	**9.88**	**1.77**	**0.16**
School Site (2010)					
Area Source Emissions	0.80	0.00	0.00	0.00	0.00
Energy Source Emissions	0.01	0.05	0.04	0.00	0.00
Mobile Source Emissions	1.62	3.93	15.22	2.09	0.20
Total Operational Emissions	**2.43**	**3.98**	**15.26**	**2.09**	**0.20**
Difference between Proposed Project (2014) and School Site (2010)					
Total Operational Emissions	**(0.77)**	**(1.36)**	**(5.38)**	**(0.32)**	**(0.04)**
SCAQMD Significance Thresholds	55	55	550	150	55
Significant (Yes or No)	**No**	**No**	**No**	**No**	**No**
Source: Calculated by UltraSystems with CalEEMod (Version 2011.1.1).					

As indicated in **Table 7**, the long-term unmitigated project operational emissions of ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$ will be less than significant. Therefore, no operational mitigation measures will be required.

4.3.3 Sensitive Receptors

Sensitive receptors are persons who are more susceptible to air pollution than the general population, such as children, athletes, the elderly, and the chronically ill. Examples of land uses where substantial numbers of sensitive receptors are often found are schools, daycare centers, parks, recreational areas, medical facilities, nursing homes, and convalescent care facilities. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to pollutants. The nearest sensitive receptor is a single-family residence about 47 feet (approximately14 meters) away from the proposed project site.[35]

Short-Term Impacts

Construction of the proposed project would generate short-term and intermittent emissions. **Table 8** (Results of Localized Significance Analysis – Construction) shows the results of the localized significance analysis for the proposed project.

The analysis was based on SCAQMD's LSTs for a five-acre disturbance area approximately 25 meters (82 feet) away from the nearest sensitive receptor (refer to **Table 8**). In general, for a

[35] Measured by UltraSystems with Google Earth, 2013.

given distance away from a sensitive receptor, the greater the construction area is, the greater the significance threshold is. Also, for a given construction site area, the farther away the receptor is, the greater the significance threshold is. Both Single-Family Residence #1 and #2 are above their respective the LSTs for PM_{10} and $PM_{2.5}$; However, with the fugitive dust control measures required under SCAQMD Rule 403 and mitigation measures AQ-1 through AQ-2 presented in **Section 5.1**, daily PM_{10} and $PM_{2.5}$ emissions for the entire project are anticipated to be below the threshold and less than significant.

Table 8 – Results of Localized Significance Analysis - Construction

Nearest Sensitive Receptor	Maximum Emissions (lbs/day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
#1 Single-Family Residence - Unmitigated (47 feet from proposed project)	**54.54**	**31.17**	**14.76**	**9.34**
#1 Single-Family Residence - Mitigated (47 feet from proposed project)	**54.54**	**31.17**	**6.41**	**4.75**
SCAQMD Significance Thresholds(5-acre site and 25 meters away)	*221*	*1,531*	*13*	*6*
Significant – Unmitigated (Yes or No)	**No**	**No**	**Yes**	**Yes**
Significant – Mitigated (Yes or No)	**No**	**No**	**No**	**No**
#2 Single-Family Residence – Unmitigated (63 feet from proposed project)	**54.54**	**31.17**	**14.76**	**9.34**
#2 Single-Family Residence – Mitigated (63 feet from proposed project)	**54.54**	**31.17**	**6.41**	**4.75**
SCAQMD Significance Thresholds(5-acre site and 100 meters away)	*221*	*1,531*	*13*	*6*
Significant – Unmitigated (Yes or No)	**No**	**No**	**Yes**	**Yes**
Significant – Mitigated (Yes or No)	**No**	**No**	**No**	**No**

Source:
Calculated by UltraSystems with CalEEMod (Version 2011.1.1).
Chico, T. and Koizumi, J. *Final Localized Significance Threshold Methodology*. South Coast Air Quality Management District, Diamond Bar, California. June 2003.

Although sensitive receptors would be exposed to diesel exhaust from construction equipment, which has been associated with lung cancer,[36] the duration of exposure would not be sufficient to result in a significant cancer risk. Carcinogenic health risk assessments are based upon an assumption of 70 years continuous exposure, while the exposure in the present case would be intermittent over a maximum of about two years. Therefore, no cancer health risk assessment was necessary. Acute noncancer risk assessments are based upon one-hour maximum

[36] California Environmental Protection Agency, Office of Environmental Health Hazard Assessment. 1998. *Part B: Health Risk Assessment for Diesel Exhaust*. May.

exposures, but acute reference exposure levels (RELs) for diesel exhaust and diesel particulate matter have not been established by the Office of Environmental Health Hazard Assessment.[37]

Long-Term Impacts

As discussed above, the daily project operational emissions will not exceed the SCAQMD regional thresholds (Refer to **Table 7),** and would not expose adjacent sensitive receptors to substantial pollutant concentrations.

Increased local vehicle traffic may contribute to off-site air quality impacts. The traffic increases in nearby intersections may contribute to traffic congestion, which may create "pockets" of CO called hotspots. These pockets have the potential to exceed the state 1-hour standard of 20 ppm and/or the 8-hour standard of 9.0 ppm, thus affecting sensitive receptors that are close to these roadways or intersections. CO hotspots typically are found at busy intersections, but can also occur along congested major arterials and freeways. They occur mostly in the early morning hours when winds are stagnant and ambient CO concentrations are elevated. In accordance with the California Department of Transportation (Caltrans) CO Protocol,[38] CO hotspots are evaluated when a project degrades the level of service (LOS) at a nearby signalized intersection to "E" or worse. Typically, hotspots analyses are not performed for unsignalized intersections, which have lower traffic volumes than those with signals. This is particularly the case when a hotspots analysis shows no impacts for the most congested, signalized intersections.

No traffic study was performed for this project. However, traffic generated by the previous land use (the school) and the proposed project was estimated with the trip generation factors built into the CalEEMod model. The project-related traffic at local intersections would be about 0.2% higher than when the site was used as a school. This would not reasonably be expected to lower the LOS to "E" or worse. A CO hotspots analysis is therefore not required.

4.3.4 Objectionable Odors

Construction activities for the proposed project would generate airborne odors associated with the operation of construction vehicles (i.e., diesel exhaust), asphalt paving operations, and the application of paints and coatings. These emissions would occur during daytime hours only, and would be isolated to the immediate vicinity of the construction site and activity. Therefore, they would not affect a substantial number of people. When project construction is completed, odors from the proposed uses of the proposed project would not significantly differ from odors emanating from single-family residences within the vicinity. Finally, no wastewater treatment plants or other industrial facilities known to cause odors are within 1,000 feet of the project site.

4.3.5 Conformity with Air Quality Management Plan

As discussed in **Section 3.2.4,** The SCAQMD has established an AQMP that proposes policies and measures to achieve federal and state standards for healthful air quality in the SCAB. The

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[37] California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, "All Acute Reference Exposure Levels developed by OEHHA as of December 2008. (www.oehha.ca.gov/air/acute_rels/allAcRELs.html).

[38] California Department of Transportation. 1997. *Transportation Project-Level Carbon Monoxide Protocol*.

most recently approved AQMP was adopted by the SCAQMD Board of Directors on December 7, 2012.

The AQMP incorporates land use assumptions from local general plans and regional growth projections developed by SCAG to estimate stationary and mobile air emissions associated with projected population and planned land uses. If the proposed land use is consistent with the local general plan, then the impact of the project is presumed to have been accounted for in the AQMP. This is because the land use and transportation control sections of the AQMP are based on the SCAG regional growth forecasts, which incorporated projections from local general plans.

Another measurement tool in determining consistency with the AQMP is to determine whether a project would generate population and employment growth and, if so, whether that growth would exceed the growth rates forecasted in the AQMP and how the project would accommodate the expected increase in population or employment.

The proposed project will not conflict with the land use designation specified in the City's General Plan. In addition, the proposed project is neither a source of new housing nor a significant source of new jobs; hence, the proposed project is not considered growth or population-inducing on a regional scale. Therefore, the proposed project will not conflict with or obstruct the implementation of the AQMP. The impact will be less than significant.

5.0 MITIGATION MEASURES

5.1 Construction Phase

The analysis of construction emissions determined PM_{10} and $PM_{2.5}$ localized air quality impacts would be significant without mitigation. These impacts will be reduced to a less-than-significant level by the following measures:

AQ-1 Replace ground cover of disturbed area. (PM reduction: 32%)[39]

AQ-2 During grading, water exposed surfaces at least twice daily. (PM reduction: 55%)[40]

6.0 IMPACTS AFTER MITIGATION

Mitigation measures **AQ-1** through **AQ-2** will ensure that emissions during construction will be less than significant.

[39] SCAQMD. 1993. *CEQA Air Quality Handbook.* April. Page 11-15.
[40] SCAQMD. 1993. *CEQA Air Quality Handbook.* April. Page 11-15.

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APPENDIX A

CALEEMOD MODELING OUTPUT

5892 Stoneview Nature Center ISMND

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Parking Lot	61	Space
City Park	4.36	Acre
Library	4	1000sqft

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	8	**Precipitation Freq (Days)**	33		

1.3 User Entered Comments

Project Characteristics - LA-South Coast
Climate Zone 8
Operational Year 2014
SCE

Land Use - Total Lot Acreage: 5 ac
City Park/Nature Ctr: 4.36 ac (3,500 sf wood deck)
Building (Library Land Use): 4,000 sf
Parking: 0.55 ac

Construction Phase - Demo: 8/1/13 (22 days)
Site Prep: 8/31/13 (5 days)
Grading: 9/7/13 (9 days)
Building: 9/20/13 (250 days)
Paving: 9/5/14 (20 days)
Architectural Coating: 10/3/14 (20 days)

Off-road Equipment -

Off-road Equipment - Other Contruction Equipment = Pile Driver (1x; 7 hrs/day; 350 hp; 0.33 load factor)

Off-road Equipment -

Demolition - Demolish approximately 15,000 sqft one-story buildings

Grading - 4.5 Acres disturbed per day during Grading
Assume balanced cut/fill

Architectural Coating - Frazee Paints:
Interior VOC - 15.3 g/L
Exterior VOC - 21.7 g/L

Area Coating - Frazee Paints:
Interior VOC - 15.3 g/L
Exterior VOC - 21.7 g/L

Energy Use - Default energy use values of Library Land Use Type

Land Use Change - Initial grass area 0.52 acre to final grass area 3.84 acre

Sequestration - Approximately 100 new miscellaneous trees.

Solid Waste - Solid Waste Default changed to Library Land Use Type

Construction Off-road Equipment Mitigation - Replace Ground Cover of Area Disturbed (32% Average - SCAQMD CEQA Handbook p. 11-15)
Water Exposed Area Twice a Day (55%)

Off-road Equipment - 2x Rubber Tired Dozers
3x Tractors/Loaders/Backhoes

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	0.36	2.67	1.70	0.00	0.09	0.15	0.24	0.03	0.15	0.18	0.00	290.91	290.91	0.03	0.00	291.52
2014	0.56	3.74	2.59	0.01	0.02	0.23	0.25	0.00	0.23	0.23	0.00	459.05	459.05	0.04	0.00	459.97
Total	**0.92**	**6.41**	**4.29**	**0.01**	**0.11**	**0.38**	**0.49**	**0.03**	**0.38**	**0.41**	**0.00**	**749.96**	**749.96**	**0.07**	**0.00**	**751.49**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	0.36	2.67	1.70	0.00	0.05	0.15	0.20	0.01	0.15	0.16	0.00	290.91	290.91	0.03	0.00	291.52
2014	0.56	3.74	2.59	0.01	0.02	0.23	0.25	0.00	0.23	0.23	0.00	459.05	459.05	0.04	0.00	459.97
Total	**0.92**	**6.41**	**4.29**	**0.01**	**0.07**	**0.38**	**0.45**	**0.01**	**0.38**	**0.39**	**0.00**	**749.96**	**749.96**	**0.07**	**0.00**	**751.49**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.10	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	15.37	15.37	0.00	0.00	15.47
Mobile	0.17	0.40	1.62	0.00	0.24	0.02	0.26	0.01	0.02	0.03	0.00	230.42	230.42	0.01	0.00	230.62
Waste						0.00	0.00		0.00	0.00	0.82	0.00	0.82	0.05	0.00	1.84
Water						0.00	0.00		0.00	0.00	0.00	17.90	17.90	0.00	0.00	18.12
Total	**0.27**	**0.40**	**1.62**	**0.00**	**0.24**	**0.02**	**0.26**	**0.01**	**0.02**	**0.03**	**0.82**	**263.69**	**264.51**	**0.06**	**0.00**	**266.05**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.10	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	15.37	15.37	0.00	0.00	15.47
Mobile	0.17	0.40	1.62	0.00	0.24	0.02	0.26	0.01	0.02	0.03	0.00	230.42	230.42	0.01	0.00	230.62
Waste						0.00	0.00		0.00	0.00	0.82	0.00	0.82	0.05	0.00	1.84
Water						0.00	0.00		0.00	0.00	0.00	17.90	17.90	0.00	0.00	18.12
Total	**0.27**	**0.40**	**1.62**	**0.00**	**0.24**	**0.02**	**0.26**	**0.01**	**0.02**	**0.03**	**0.82**	**263.69**	**264.51**	**0.06**	**0.00**	**266.05**

2.3 Vegetation

Vegetation

	ROG	NOx	CO	SO2	CO2e
Category	tons				MT
New Trees					70.80
Vegetation Land Change					20.58
Total					**91.38**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

3.2 Demolition - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.10	0.78	0.47	0.00		0.04	0.04		0.04	0.04	0.00	74.93	74.93	0.01	0.00	75.10
Total	**0.10**	**0.78**	**0.47**	**0.00**	**0.01**	**0.04**	**0.05**	**0.00**	**0.04**	**0.04**	**0.00**	**74.93**	**74.93**	**0.01**	**0.00**	**75.10**

3.2 Demolition - 2013

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.02	0.01	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	2.59	2.59	0.00	0.00	2.59
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82	1.82	0.00	0.00	1.83
Total	**0.00**	**0.02**	**0.02**	**0.00**	**0.02**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**4.41**	**4.41**	**0.00**	**0.00**	**4.42**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.10	0.78	0.47	0.00		0.04	0.04		0.04	0.04	0.00	74.93	74.93	0.01	0.00	75.10
Total	**0.10**	**0.78**	**0.47**	**0.00**	**0.00**	**0.04**	**0.04**	**0.00**	**0.04**	**0.04**	**0.00**	**74.93**	**74.93**	**0.01**	**0.00**	**75.10**

3.2 Demolition - 2013

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.02	0.01	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	2.59	2.59	0.00	0.00	2.59
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82	1.82	0.00	0.00	1.83
Total	**0.00**	**0.02**	**0.02**	**0.00**	**0.02**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**4.41**	**4.41**	**0.00**	**0.00**	**4.42**

3.3 Site Preparation - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.03	0.00	0.03	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.02	0.14	0.08	0.00		0.01	0.01		0.01	0.01	0.00	12.40	12.40	0.00	0.00	12.43
Total	**0.02**	**0.14**	**0.08**	**0.00**	**0.03**	**0.01**	**0.04**	**0.02**	**0.01**	**0.03**	**0.00**	**12.40**	**12.40**	**0.00**	**0.00**	**12.43**

3.3 Site Preparation - 2013

<u>Unmitigated Construction Off-Site</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.36	0.00	0.00	0.36
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.36**	**0.36**	**0.00**	**0.00**	**0.36**

<u>Mitigated Construction On-Site</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.02	0.14	0.08	0.00		0.01	0.01		0.01	0.01	0.00	12.40	12.40	0.00	0.00	12.43
Total	**0.02**	**0.14**	**0.08**	**0.00**	**0.01**	**0.01**	**0.02**	**0.01**	**0.01**	**0.02**	**0.00**	**12.40**	**12.40**	**0.00**	**0.00**	**12.43**

3.3 Site Preparation - 2013

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.36	0.00	0.00	0.36
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.36**	**0.36**	**0.00**	**0.00**	**0.36**

3.4 Grading - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.03	0.00	0.03	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.22	0.14	0.00		0.01	0.01		0.01	0.01	0.00	21.39	21.39	0.00	0.00	21.43
Total	**0.03**	**0.22**	**0.14**	**0.00**	**0.03**	**0.01**	**0.04**	**0.02**	**0.01**	**0.03**	**0.00**	**21.39**	**21.39**	**0.00**	**0.00**	**21.43**

3.4 Grading - 2013

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.75	0.00	0.00	0.75
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.75**	**0.75**	**0.00**	**0.00**	**0.75**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.22	0.14	0.00		0.01	0.01		0.01	0.01	0.00	21.39	21.39	0.00	0.00	21.43
Total	**0.03**	**0.22**	**0.14**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**	**0.00**	**21.39**	**21.39**	**0.00**	**0.00**	**21.43**

3.4 Grading - 2013

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.75	0.00	0.00	0.75
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.75**	**0.75**	**0.00**	**0.00**	**0.75**

3.5 Building Construction - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.21	1.49	0.93	0.00		0.09	0.09		0.09	0.09	0.00	167.26	167.26	0.02	0.00	167.62
Total	**0.21**	**1.49**	**0.93**	**0.00**		**0.09**	**0.09**		**0.09**	**0.09**	**0.00**	**167.26**	**167.26**	**0.02**	**0.00**	**167.62**

3.5 Building Construction - 2013

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.57	4.57	0.00	0.00	4.57
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.84	4.84	0.00	0.00	4.85
Total	**0.00**	**0.03**	**0.05**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**9.41**	**9.41**	**0.00**	**0.00**	**9.42**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.21	1.49	0.93	0.00		0.09	0.09		0.09	0.09	0.00	167.26	167.26	0.02	0.00	167.62
Total	**0.21**	**1.49**	**0.93**	**0.00**		**0.09**	**0.09**		**0.09**	**0.09**	**0.00**	**167.26**	**167.26**	**0.02**	**0.00**	**167.62**

3.5 Building Construction - 2013

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.57	4.57	0.00	0.00	4.57
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.84	4.84	0.00	0.00	4.85
Total	**0.00**	**0.03**	**0.05**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**9.41**	**9.41**	**0.00**	**0.00**	**9.42**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.47	3.31	2.23	0.00		0.19	0.19		0.19	0.19	0.00	405.55	405.55	0.04	0.00	406.34
Total	**0.47**	**3.31**	**2.23**	**0.00**		**0.19**	**0.19**		**0.19**	**0.19**	**0.00**	**405.55**	**405.55**	**0.04**	**0.00**	**406.34**

3.5 Building Construction - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.07	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	11.10	11.10	0.00	0.00	11.10
Worker	0.01	0.01	0.07	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	11.55	11.55	0.00	0.00	11.56
Total	**0.02**	**0.08**	**0.12**	**0.00**	**0.01**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**22.65**	**22.65**	**0.00**	**0.00**	**22.66**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.47	3.31	2.23	0.00		0.19	0.19		0.19	0.19	0.00	405.55	405.55	0.04	0.00	406.34
Total	**0.47**	**3.31**	**2.23**	**0.00**		**0.19**	**0.19**		**0.19**	**0.19**	**0.00**	**405.55**	**405.55**	**0.04**	**0.00**	**406.34**

3.5 Building Construction - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.07	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	11.10	11.10	0.00	0.00	11.10
Worker	0.01	0.01	0.07	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	11.55	11.55	0.00	0.00	11.56
Total	**0.02**	**0.08**	**0.12**	**0.00**	**0.01**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**22.65**	**22.65**	**0.00**	**0.00**	**22.66**

3.6 Paving - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.32	0.21	0.00		0.03	0.03		0.03	0.03	0.00	26.46	26.46	0.00	0.00	26.55
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.21**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**26.46**	**26.46**	**0.00**	**0.00**	**26.55**

3.6 Paving - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.63	1.63	0.00	0.00	1.63
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.63**	**1.63**	**0.00**	**0.00**	**1.63**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.32	0.21	0.00		0.03	0.03		0.03	0.03	0.00	26.46	26.46	0.00	0.00	26.55
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.21**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**26.46**	**26.46**	**0.00**	**0.00**	**26.55**

3.6 Paving - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.63	1.63	0.00	0.00	1.63
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.63**	**1.63**	**0.00**	**0.00**	**1.63**

3.7 Architectural Coating - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.02					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.55	2.55	0.00	0.00	2.56
Total	**0.02**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.55**	**2.55**	**0.00**	**0.00**	**2.56**

3.7 Architectural Coating - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.22	0.00	0.00	0.22
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.22**	**0.22**	**0.00**	**0.00**	**0.22**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.02					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.55	2.55	0.00	0.00	2.56
Total	**0.02**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.55**	**2.55**	**0.00**	**0.00**	**2.56**

3.7 Architectural Coating - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.22	0.00	0.00	0.22
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.22**	**0.22**	**0.00**	**0.00**	**0.22**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.17	0.40	1.62	0.00	0.24	0.02	0.26	0.01	0.02	0.03	0.00	230.42	230.42	0.01	0.00	230.62
Unmitigated	0.17	0.40	1.62	0.00	0.24	0.02	0.26	0.01	0.02	0.03	0.00	230.42	230.42	0.01	0.00	230.62
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	6.93	6.93	6.93	19,775	19,775
Parking Lot	0.00	0.00	0.00		
Library	224.96	186.20	101.96	433,963	433,963
Total	231.89	193.13	108.89	453,738	453,738

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
City Park	8.90	13.30	7.40	33.00	48.00	19.00
Parking Lot	8.90	13.30	7.40	0.00	0.00	0.00
Library	8.90	13.30	7.40	52.00	43.00	5.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	10.75	10.75	0.00	0.00	10.82
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	10.75	10.75	0.00	0.00	10.82
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	4.62	4.62	0.00	0.00	4.65
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	4.62	4.62	0.00	0.00	4.65
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Library	86560	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	4.62	4.62	0.00	0.00	4.65
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**4.62**	**4.62**	**0.00**	**0.00**	**4.65**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Library	86560	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	4.62	4.62	0.00	0.00	4.65
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**4.62**	**4.62**	**0.00**	**0.00**	**4.65**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
City Park	0					0.00	0.00	0.00	0.00
Library	36960					10.75	0.00	0.00	10.82
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**10.75**	**0.00**	**0.00**	**10.82**

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
City Park	0					0.00	0.00	0.00	0.00
Library	36960					10.75	0.00	0.00	10.82
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**10.75**	**0.00**	**0.00**	**10.82**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.10	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.10	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.10					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.10**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.10					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.10**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					17.90	0.00	0.00	18.12
Unmitigated					17.90	0.00	0.00	18.12
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

<u>Unmitigated</u>

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
City Park	0 / 5.19486					16.79	0.00	0.00	16.89
Library	0.125156 / 0.195756					1.11	0.00	0.00	1.22
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Total						**17.90**	**0.00**	**0.00**	**18.11**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
City Park	0 / 5.19486					16.79	0.00	0.00	16.89
Library	0.125156 / 0.195756					1.11	0.00	0.00	1.22
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Total						**17.90**	**0.00**	**0.00**	**18.11**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					0.82	0.05	0.00	1.84
Unmitigated					0.82	0.05	0.00	1.84
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
City Park	0.37					0.08	0.00	0.00	0.17
Library	3.68					0.75	0.04	0.00	1.67
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**0.83**	**0.04**	**0.00**	**1.84**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
City Park	0.37					0.08	0.00	0.00	0.17
Library	3.68					0.75	0.04	0.00	1.67
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**0.83**	**0.04**	**0.00**	**1.84**

9.0 Vegetation

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons				MT			
Unmitigated					91.38	0.00	0.00	91.38
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

9.1 Vegetation Land Change

Vegetation Type

	Initial/Final	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	Acres	tons				MT			
Cropland	0.52 / 3.84					20.58	0.00	0.00	20.58
Total						**20.58**	**0.00**	**0.00**	**20.58**

9.1 Net New Trees

Species Class

	Number of Trees	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
		tons				MT			
Miscellaneous	100					70.80	0.00	0.00	70.80
Total						**70.80**	**0.00**	**0.00**	**70.80**

5892 Stoneview Nature Center ISMND

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Parking Lot	61	Space
City Park	4.36	Acre
Library	4	1000sqft

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	8	**Precipitation Freq (Days)**	33		

1.3 User Entered Comments

Project Characteristics - LA-South Coast
Climate Zone 8
Operational Year 2014
SCE

Land Use - Total Lot Acreage: 5 ac
City Park/Nature Ctr: 4.36 ac (3,500 sf wood deck)
Building (Library Land Use): 4,000 sf
Parking: 0.55 ac

Construction Phase - Demo: 8/1/13 (22 days)
Site Prep: 8/31/13 (5 days)
Grading: 9/7/13 (9 days)
Building: 9/20/13 (250 days)
Paving: 9/5/14 (20 days)
Architectural Coating: 10/3/14 (20 days)

Off-road Equipment -

Off-road Equipment - Other Contruction Equipment = Pile Driver (1x; 7 hrs/day; 350 hp; 0.33 load factor)

Off-road Equipment -

Demolition - Demolish approximately 15,000 sqft one-story buildings

Grading - 4.5 Acres disturbed per day during Grading
Assume balanced cut/fill

Architectural Coating - Frazee Paints:
Interior VOC - 15.3 g/L
Exterior VOC - 21.7 g/L

Area Coating - Frazee Paints:
Interior VOC - 15.3 g/L
Exterior VOC - 21.7 g/L

Energy Use - Default energy use values of Library Land Use Type

Land Use Change - Initial grass area 0.52 acre to final grass area 3.84 acre

Sequestration - Approximately 100 new miscellaneous trees.

Solid Waste - Solid Waste Default changed to Library Land Use Type

Construction Off-road Equipment Mitigation - Replace Ground Cover of Area Disturbed (32% Average - SCAQMD CEQA Handbook p. 11-15)
Water Exposed Area Twice a Day (55%)

Off-road Equipment - 2x Rubber Tired Dozers
3x Tractors/Loaders/Backhoes

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2013	9.15	72.62	44.71	0.08	12.24	3.59	14.98	6.63	3.59	9.36	0.00	7,948.28	0.00	0.82	0.00	7,965.45
2014	5.44	38.31	26.60	0.05	0.23	2.74	2.97	0.01	2.74	2.75	0.00	5,330.82	0.00	0.48	0.00	5,340.98
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2013	9.15	72.62	44.71	0.08	3.89	3.59	6.62	2.03	3.59	4.76	0.00	7,948.28	0.00	0.82	0.00	7,965.45
2014	5.44	38.31	26.60	0.05	0.23	2.74	2.97	0.01	2.74	2.75	0.00	5,330.82	0.00	0.48	0.00	5,340.98
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.57	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.02	0.02	0.00		0.00	0.00		0.00	0.00		27.90		0.00	0.00	28.07
Mobile	1.09	2.60	9.86	0.01	1.67	0.10	1.77	0.06	0.10	0.16		1,519.15		0.06		1,520.48
Total	**1.66**	**2.62**	**9.88**	**0.01**	**1.67**	**0.10**	**1.77**	**0.06**	**0.10**	**0.16**		**1,547.05**		**0.06**	**0.00**	**1,548.55**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.57	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.02	0.02	0.00		0.00	0.00		0.00	0.00		27.90		0.00	0.00	28.07
Mobile	1.09	2.60	9.86	0.01	1.67	0.10	1.77	0.06	0.10	0.16		1,519.15		0.06		1,520.48
Total	**1.66**	**2.62**	**9.88**	**0.01**	**1.67**	**0.10**	**1.77**	**0.06**	**0.10**	**0.16**		**1,547.05**		**0.06**	**0.00**	**1,548.55**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

3.2 Demolition - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.67	0.00	0.67	0.00	0.00	0.00						0.00
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50		7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**	**0.67**	**3.50**	**4.17**	**0.00**	**3.50**	**3.50**		**7,510.81**		**0.80**		**7,527.57**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.18	1.79	1.05	0.00	1.59	0.08	1.67	0.01	0.08	0.09		258.92		0.01		259.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.11	0.12	1.11	0.00	0.23	0.01	0.24	0.01	0.01	0.02		178.55		0.01		178.78
Total	**0.29**	**1.91**	**2.16**	**0.00**	**1.82**	**0.09**	**1.91**	**0.02**	**0.09**	**0.11**		**437.47**		**0.02**		**437.88**

3.2 Demolition - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.21	0.00	0.21	0.00	0.00	0.00						0.00
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50	0.00	7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**	**0.21**	**3.50**	**3.71**	**0.00**	**3.50**	**3.50**	**0.00**	**7,510.81**		**0.80**		**7,527.57**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.18	1.79	1.05	0.00	1.59	0.08	1.67	0.01	0.08	0.09		258.92		0.01		259.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.11	0.12	1.11	0.00	0.23	0.01	0.24	0.01	0.01	0.02		178.55		0.01		178.78
Total	**0.29**	**1.91**	**2.16**	**0.00**	**1.82**	**0.09**	**1.91**	**0.02**	**0.09**	**0.11**		**437.47**		**0.02**		**437.88**

3.3 Site Preparation - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.04	0.00	12.04	6.62	0.00	6.62						0.00
Off-Road	6.78	54.54	31.17	0.05		2.72	2.72		2.72	2.72		5,469.48		0.61		5,482.29
Total	**6.78**	**54.54**	**31.17**	**0.05**	**12.04**	**2.72**	**14.76**	**6.62**	**2.72**	**9.34**		**5,469.48**		**0.61**		**5,482.29**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.10	0.96	0.00	0.20	0.01	0.21	0.01	0.01	0.01		154.74		0.01		154.94
Total	**0.09**	**0.10**	**0.96**	**0.00**	**0.20**	**0.01**	**0.21**	**0.01**	**0.01**	**0.01**		**154.74**		**0.01**		**154.94**

3.3 Site Preparation - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.69	0.00	3.69	2.03	0.00	2.03						0.00
Off-Road	6.78	54.54	31.17	0.05		2.72	2.72		2.72	2.72	0.00	5,469.48		0.61		5,482.29
Total	**6.78**	**54.54**	**31.17**	**0.05**	**3.69**	**2.72**	**6.41**	**2.03**	**2.72**	**4.75**	**0.00**	**5,469.48**		**0.61**		**5,482.29**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.10	0.96	0.00	0.20	0.01	0.21	0.01	0.01	0.01		154.74		0.01		154.94
Total	**0.09**	**0.10**	**0.96**	**0.00**	**0.20**	**0.01**	**0.21**	**0.01**	**0.01**	**0.01**		**154.74**		**0.01**		**154.94**

3.4 Grading - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.55	0.00	6.55	3.31	0.00	3.31						0.00
Off-Road	6.36	48.81	31.00	0.05		2.73	2.73		2.73	2.73		5,240.06		0.57		5,252.04
Total	**6.36**	**48.81**	**31.00**	**0.05**	**6.55**	**2.73**	**9.28**	**3.31**	**2.73**	**6.04**		**5,240.06**		**0.57**		**5,252.04**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.11	0.12	1.11	0.00	0.23	0.01	0.24	0.01	0.01	0.02		178.55		0.01		178.78
Total	**0.11**	**0.12**	**1.11**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**178.55**		**0.01**		**178.78**

3.4 Grading - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.01	0.00	2.01	1.01	0.00	1.01						0.00
Off-Road	6.36	48.81	31.00	0.05		2.73	2.73		2.73	2.73	0.00	5,240.06		0.57		5,252.04
Total	**6.36**	**48.81**	**31.00**	**0.05**	**2.01**	**2.73**	**4.74**	**1.01**	**2.73**	**3.74**	**0.00**	**5,240.06**		**0.57**		**5,252.04**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.11	0.12	1.11	0.00	0.23	0.01	0.24	0.01	0.01	0.02		178.55		0.01		178.78
Total	**0.11**	**0.12**	**1.11**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**178.55**		**0.01**		**178.78**

3.5 Building Construction - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.75	40.71	25.53	0.05		2.47	2.47		2.47	2.47		5,052.64		0.51		5,063.43
Total	**5.75**	**40.71**	**25.53**	**0.05**		**2.47**	**2.47**		**2.47**	**2.47**		**5,052.64**		**0.51**		**5,063.43**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.09	0.89	0.62	0.00	0.05	0.03	0.08	0.00	0.03	0.03		137.40		0.00		137.49
Worker	0.09	0.09	0.89	0.00	0.18	0.01	0.19	0.01	0.01	0.01		142.84		0.01		143.03
Total	**0.18**	**0.98**	**1.51**	**0.00**	**0.23**	**0.04**	**0.27**	**0.01**	**0.04**	**0.04**		**280.24**		**0.01**		**280.52**

3.5 Building Construction - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.75	40.71	25.53	0.05		2.47	2.47		2.47	2.47	0.00	5,052.64		0.51		5,063.43
Total	**5.75**	**40.71**	**25.53**	**0.05**		**2.47**	**2.47**		**2.47**	**2.47**	**0.00**	**5,052.64**		**0.51**		**5,063.43**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.09	0.89	0.62	0.00	0.05	0.03	0.08	0.00	0.03	0.03		137.40		0.00		137.49
Worker	0.09	0.09	0.89	0.00	0.18	0.01	0.19	0.01	0.01	0.01		142.84		0.01		143.03
Total	**0.18**	**0.98**	**1.51**	**0.00**	**0.23**	**0.04**	**0.27**	**0.01**	**0.04**	**0.04**		**280.24**		**0.01**		**280.52**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.29	37.42	25.22	0.05		2.20	2.20		2.20	2.20		5,052.64		0.47		5,062.55
Total	**5.29**	**37.42**	**25.22**	**0.05**		**2.20**	**2.20**		**2.20**	**2.20**		**5,052.64**		**0.47**		**5,062.55**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.08	0.80	0.56	0.00	0.05	0.03	0.07	0.00	0.03	0.03		137.64		0.00		137.72
Worker	0.08	0.08	0.81	0.00	0.18	0.01	0.19	0.01	0.01	0.01		140.53		0.01		140.70
Total	**0.16**	**0.88**	**1.37**	**0.00**	**0.23**	**0.04**	**0.26**	**0.01**	**0.04**	**0.04**		**278.17**		**0.01**		**278.42**

3.5 Building Construction - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.29	37.42	25.22	0.05		2.20	2.20		2.20	2.20	0.00	5,052.64		0.47		5,062.55
Total	**5.29**	**37.42**	**25.22**	**0.05**		**2.20**	**2.20**		**2.20**	**2.20**	**0.00**	**5,052.64**		**0.47**		**5,062.55**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.08	0.80	0.56	0.00	0.05	0.03	0.07	0.00	0.03	0.03		137.64		0.00		137.72
Worker	0.08	0.08	0.81	0.00	0.18	0.01	0.19	0.01	0.01	0.01		140.53		0.01		140.70
Total	**0.16**	**0.88**	**1.37**	**0.00**	**0.23**	**0.04**	**0.26**	**0.01**	**0.04**	**0.04**		**278.17**		**0.01**		**278.42**

3.6 Paving - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.20	32.09	20.70	0.03		2.74	2.74		2.74	2.74		2,917.65		0.47		2,927.48
Paving	0.07					0.00	0.00		0.00	0.00						0.00
Total	**5.27**	**32.09**	**20.70**	**0.03**		**2.74**	**2.74**		**2.74**	**2.74**		**2,917.65**		**0.47**		**2,927.48**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.10	0.11	1.02	0.00	0.23	0.01	0.24	0.01	0.01	0.02		175.66		0.01		175.88
Total	**0.10**	**0.11**	**1.02**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**175.66**		**0.01**		**175.88**

3.6 Paving - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.20	32.09	20.70	0.03		2.74	2.74		2.74	2.74	0.00	2,917.65		0.47		2,927.48
Paving	0.07					0.00	0.00		0.00	0.00						0.00
Total	**5.27**	**32.09**	**20.70**	**0.03**		**2.74**	**2.74**		**2.74**	**2.74**	**0.00**	**2,917.65**		**0.47**		**2,927.48**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.10	0.11	1.02	0.00	0.23	0.01	0.24	0.01	0.01	0.02		175.66		0.01		175.88
Total	**0.10**	**0.11**	**1.02**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**175.66**		**0.01**		**175.88**

3.7 Architectural Coating - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.22					0.00	0.00		0.00	0.00						0.00
Off-Road	0.45	2.77	1.92	0.00		0.24	0.24		0.24	0.24		281.19		0.04		282.03
Total	**2.67**	**2.77**	**1.92**	**0.00**		**0.24**	**0.24**		**0.24**	**0.24**		**281.19**		**0.04**		**282.03**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.01	0.01	0.14	0.00	0.03	0.00	0.03	0.00	0.00	0.00		23.42		0.00		23.45
Total	**0.01**	**0.01**	**0.14**	**0.00**	**0.03**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**		**23.42**		**0.00**		**23.45**

3.7 Architectural Coating - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.22					0.00	0.00		0.00	0.00						0.00
Off-Road	0.45	2.77	1.92	0.00		0.24	0.24		0.24	0.24	0.00	281.19		0.04		282.03
Total	**2.67**	**2.77**	**1.92**	**0.00**		**0.24**	**0.24**		**0.24**	**0.24**	**0.00**	**281.19**		**0.04**		**282.03**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.01	0.01	0.14	0.00	0.03	0.00	0.03	0.00	0.00	0.00		23.42		0.00		23.45
Total	**0.01**	**0.01**	**0.14**	**0.00**	**0.03**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**		**23.42**		**0.00**		**23.45**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.09	2.60	9.86	0.01	1.67	0.10	1.77	0.06	0.10	0.16		1,519.15		0.06		1,520.48
Unmitigated	1.09	2.60	9.86	0.01	1.67	0.10	1.77	0.06	0.10	0.16		1,519.15		0.06		1,520.48
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	6.93	6.93	6.93	19,775	19,775
Parking Lot	0.00	0.00	0.00		
Library	224.96	186.20	101.96	433,963	433,963
Total	231.89	193.13	108.89	453,738	453,738

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
City Park	8.90	13.30	7.40	33.00	48.00	19.00
Parking Lot	8.90	13.30	7.40	0.00	0.00	0.00

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Library	8.90	13.30	7.40	52.00	43.00	5.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.00	0.02	0.02	0.00		0.00	0.00		0.00	0.00		27.90		0.00	0.00	28.07
NaturalGas Unmitigated	0.00	0.02	0.02	0.00		0.00	0.00		0.00	0.00		27.90		0.00	0.00	28.07
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Library	237.151	0.00	0.02	0.02	0.00		0.00	0.00		0.00	0.00		27.90		0.00	0.00	28.07
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.02**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**27.90**		**0.00**	**0.00**	**28.07**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Library	0.237151	0.00	0.02	0.02	0.00		0.00	0.00		0.00	0.00		27.90		0.00	0.00	28.07
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.02**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**27.90**		**0.00**	**0.00**	**28.07**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.57	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Unmitigated	0.57	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.01					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.56					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.57**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.01					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.56					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.57**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

5892 Stoneview Nature Center ISMND - PREVIOUS LAND USE

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Parking Lot	61	Space
Elementary School	15	1000sqft

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Utility Company** Southern California Edison

Climate Zone 8 **Precipitation Freq (Days)** 33

1.3 User Entered Comments

Project Characteristics - LA-South Coast
Climate Zone 8
Operational Year 2010
SCE

Land Use - Total Lot Acreage: 5 ac
Elemtary School: 4.45 ac (15,000 sf bldg)
Parking: 0.55 ac

Construction Phase - Demo: 8/1/13 (22 days)
Site Prep: 8/31/13 (5 days)
Grading: 9/7/13 (9 days)
Building: 9/20/13 (250 days)
Paving: 9/5/14 (20 days)
Architectural Coating: 10/3/14 (20 days)

Off-road Equipment - 1x Air Compressor

Off-road Equipment - 1x Crane
3x Forklifts
1x Generator Set
Other Contruction Equipment = Pile Driver (1x; 7 hrs/day; 350 hp; 0.33 load factor)
1x Tractor/L/B
1x Welder

Off-road Equipment - 2x Pavers
2x Paving Equipment
2x Rollers

Demolition - Demolish approximately 15,000 sqft one-story buildings

Grading - 4.5 Acres disturbed per day during Grading
Assume balanced cut/fill

Architectural Coating - Frazee Paints:
Interior VOC - 15.3 g/L
Exterior VOC - 21.7 g/L

Area Coating - Frazee Paints:
Interior VOC - 15.3 g/L
Exterior VOC - 21.7 g/L

Energy Use - Default energy use values of Library Land Use Type

Land Use Change - Initial grass area 0.52 acre to final grass area 3.84 acre

Sequestration - Approximately 100 new miscellaneous trees.

Solid Waste - Solid Waste Default changed to Library Land Use Type

Construction Off-road Equipment Mitigation - Replace Ground Cover of Area Disturbed (32% Average - SCAQMD CEQA Handbook p. 11-15)
Water Exposed Area Twice a Day (55%)

Off-road Equipment - 2x Rubber Tired Dozers
3x Tractors/Loaders/Backhoes

Off-road Equipment - 1x Concrete Saw
3x Excavators
2x Rubber Tired Dozers

Off-road Equipment - 1x Excavator
1x Grader
1x Rubber Tired Dozer
3x Tractors/Loaders/Backhoes

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	0.88	5.99	3.75	0.01	0.13	0.39	0.52	0.04	0.39	0.43	0.00	565.81	565.81	0.07	0.00	567.31
2012	0.10	0.41	0.26	0.00	0.00	0.03	0.04	0.00	0.03	0.03	0.00	33.95	33.95	0.01	0.00	34.06
Total	**0.98**	**6.40**	**4.01**	**0.01**	**0.13**	**0.42**	**0.56**	**0.04**	**0.42**	**0.46**	**0.00**	**599.76**	**599.76**	**0.08**	**0.00**	**601.37**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	0.88	5.99	3.75	0.01	0.07	0.39	0.46	0.01	0.39	0.40	0.00	565.81	565.81	0.07	0.00	567.31
2012	0.10	0.41	0.26	0.00	0.00	0.03	0.04	0.00	0.03	0.03	0.00	33.95	33.95	0.01	0.00	34.06
Total	**0.98**	**6.40**	**4.01**	**0.01**	**0.07**	**0.42**	**0.50**	**0.01**	**0.42**	**0.43**	**0.00**	**599.76**	**599.76**	**0.08**	**0.00**	**601.37**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.15	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	40.08	40.08	0.00	0.00	40.33
Mobile	0.20	0.48	1.99	0.00	0.23	0.02	0.25	0.01	0.02	0.03	0.00	225.07	225.07	0.01	0.00	225.36
Waste						0.00	0.00		0.00	0.00	3.96	0.00	3.96	0.23	0.00	8.87
Water						0.00	0.00		0.00	0.00	0.00	5.27	5.27	0.01	0.00	5.68
Total	**0.35**	**0.49**	**2.00**	**0.00**	**0.23**	**0.02**	**0.25**	**0.01**	**0.02**	**0.03**	**3.96**	**270.42**	**274.38**	**0.25**	**0.00**	**280.24**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.15	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	40.08	40.08	0.00	0.00	40.33
Mobile	0.20	0.48	1.99	0.00	0.23	0.02	0.25	0.01	0.02	0.03	0.00	225.07	225.07	0.01	0.00	225.36
Waste						0.00	0.00		0.00	0.00	3.96	0.00	3.96	0.23	0.00	8.87
Water						0.00	0.00		0.00	0.00	0.00	5.27	5.27	0.01	0.00	5.68
Total	**0.35**	**0.49**	**2.00**	**0.00**	**0.23**	**0.02**	**0.25**	**0.01**	**0.02**	**0.03**	**3.96**	**270.42**	**274.38**	**0.25**	**0.00**	**280.24**

2.3 Vegetation

Vegetation

	ROG	NOx	CO	SO2	CO2e
Category	tons				MT
New Trees					70.80
Vegetation Land Change					20.58
Total					**91.38**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

3.2 Demolition - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.10	0.80	0.46	0.00		0.04	0.04		0.04	0.04	0.00	68.12	68.12	0.01	0.00	68.29
Total	**0.10**	**0.80**	**0.46**	**0.00**	**0.01**	**0.04**	**0.05**	**0.00**	**0.04**	**0.04**	**0.00**	**68.12**	**68.12**	**0.01**	**0.00**	**68.29**

3.2 Demolition - 2011

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.02	0.01	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	2.57	2.57	0.00	0.00	2.57
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.72	1.72	0.00	0.00	1.73
Total	**0.00**	**0.02**	**0.02**	**0.00**	**0.01**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**4.29**	**4.29**	**0.00**	**0.00**	**4.30**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.10	0.80	0.46	0.00		0.04	0.04		0.04	0.04	0.00	68.12	68.12	0.01	0.00	68.29
Total	**0.10**	**0.80**	**0.46**	**0.00**	**0.00**	**0.04**	**0.04**	**0.00**	**0.04**	**0.04**	**0.00**	**68.12**	**68.12**	**0.01**	**0.00**	**68.29**

3.2 Demolition - 2011

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.02	0.01	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	2.57	2.57	0.00	0.00	2.57
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.72	1.72	0.00	0.00	1.73
Total	**0.00**	**0.02**	**0.02**	**0.00**	**0.01**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**4.29**	**4.29**	**0.00**	**0.00**	**4.30**

3.3 Site Preparation - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.05	0.00	0.05	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.22	0.13	0.00		0.01	0.01		0.01	0.01	0.00	18.13	18.13	0.00	0.00	18.18
Total	**0.03**	**0.22**	**0.13**	**0.00**	**0.05**	**0.01**	**0.06**	**0.02**	**0.01**	**0.03**	**0.00**	**18.13**	**18.13**	**0.00**	**0.00**	**18.18**

3.3 Site Preparation - 2011

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.52	0.00	0.00	0.52
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.52**	**0.52**	**0.00**	**0.00**	**0.52**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.22	0.13	0.00		0.01	0.01		0.01	0.01	0.00	18.13	18.13	0.00	0.00	18.18
Total	**0.03**	**0.22**	**0.13**	**0.00**	**0.01**	**0.01**	**0.02**	**0.01**	**0.01**	**0.02**	**0.00**	**18.13**	**18.13**	**0.00**	**0.00**	**18.18**

3.3 Site Preparation - 2011

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.52	0.00	0.00	0.52
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.52**	**0.52**	**0.00**	**0.00**	**0.52**

3.4 Grading - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.03	0.00	0.03	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.22	0.13	0.00		0.01	0.01		0.01	0.01	0.00	19.01	19.01	0.00	0.00	19.06
Total	**0.03**	**0.22**	**0.13**	**0.00**	**0.03**	**0.01**	**0.04**	**0.01**	**0.01**	**0.02**	**0.00**	**19.01**	**19.01**	**0.00**	**0.00**	**19.06**

3.4 Grading - 2011

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.69	0.00	0.00	0.69
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.69**	**0.69**	**0.00**	**0.00**	**0.69**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.22	0.13	0.00		0.01	0.01		0.01	0.01	0.00	19.01	19.01	0.00	0.00	19.06
Total	**0.03**	**0.22**	**0.13**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**	**0.00**	**19.01**	**19.01**	**0.00**	**0.00**	**19.06**

3.4 Grading - 2011

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.69	0.00	0.00	0.69
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.69**	**0.69**	**0.00**	**0.00**	**0.69**

3.5 Building Construction - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.69	4.56	2.73	0.00		0.32	0.32		0.32	0.32	0.00	415.93	415.93	0.06	0.00	417.11
Total	**0.69**	**4.56**	**2.73**	**0.00**		**0.32**	**0.32**		**0.32**	**0.32**	**0.00**	**415.93**	**415.93**	**0.06**	**0.00**	**417.11**

3.5 Building Construction - 2011

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.14	0.10	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.00	16.94	16.94	0.00	0.00	16.96
Worker	0.02	0.02	0.17	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	22.17	22.17	0.00	0.00	22.20
Total	**0.03**	**0.16**	**0.27**	**0.00**	**0.04**	**0.01**	**0.04**	**0.00**	**0.01**	**0.01**	**0.00**	**39.11**	**39.11**	**0.00**	**0.00**	**39.16**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.69	4.56	2.73	0.00		0.32	0.32		0.32	0.32	0.00	415.93	415.93	0.06	0.00	417.11
Total	**0.69**	**4.56**	**2.73**	**0.00**		**0.32**	**0.32**		**0.32**	**0.32**	**0.00**	**415.93**	**415.93**	**0.06**	**0.00**	**417.11**

3.5 Building Construction - 2011

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.14	0.10	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.00	16.94	16.94	0.00	0.00	16.96
Worker	0.02	0.02	0.17	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	22.17	22.17	0.00	0.00	22.20
Total	**0.03**	**0.16**	**0.27**	**0.00**	**0.04**	**0.01**	**0.04**	**0.00**	**0.01**	**0.01**	**0.00**	**39.11**	**39.11**	**0.00**	**0.00**	**39.16**

3.5 Building Construction - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.01	0.06	0.04	0.00		0.00	0.00		0.00	0.00	0.00	5.50	5.50	0.00	0.00	5.51
Total	**0.01**	**0.06**	**0.04**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**5.50**	**5.50**	**0.00**	**0.00**	**5.51**

3.5 Building Construction - 2012

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.22	0.00	0.00	0.22
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.29	0.00	0.00	0.29
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.51**	**0.51**	**0.00**	**0.00**	**0.51**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.01	0.06	0.04	0.00		0.00	0.00		0.00	0.00	0.00	5.50	5.50	0.00	0.00	5.51
Total	**0.01**	**0.06**	**0.04**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**5.50**	**5.50**	**0.00**	**0.00**	**5.51**

3.5 Building Construction - 2012

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.22	0.00	0.00	0.22
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.29	0.00	0.00	0.29
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.51**	**0.51**	**0.00**	**0.00**	**0.51**

3.6 Paving - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.32	0.19	0.00		0.03	0.03		0.03	0.03	0.00	23.82	23.82	0.00	0.00	23.91
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.19**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**23.82**	**23.82**	**0.00**	**0.00**	**23.91**

3.6 Paving - 2012

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52	1.52	0.00	0.00	1.52
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.52**	**1.52**	**0.00**	**0.00**	**1.52**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.32	0.19	0.00		0.03	0.03		0.03	0.03	0.00	23.82	23.82	0.00	0.00	23.91
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.19**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**23.82**	**23.82**	**0.00**	**0.00**	**23.91**

3.6 Paving - 2012

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52	1.52	0.00	0.00	1.52
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.52**	**1.52**	**0.00**	**0.00**	**1.52**

3.7 Architectural Coating - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.03					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.30	2.30	0.00	0.00	2.30
Total	**0.03**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.30**	**2.30**	**0.00**	**0.00**	**2.30**

3.7 Architectural Coating - 2012

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.30	0.00	0.00	0.30
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.30**	**0.30**	**0.00**	**0.00**	**0.30**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.03					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.30	2.30	0.00	0.00	2.30
Total	**0.03**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.30**	**2.30**	**0.00**	**0.00**	**2.30**

3.7 Architectural Coating - 2012

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.30	0.00	0.00	0.30
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.30**	**0.30**	**0.00**	**0.00**	**0.30**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.20	0.48	1.99	0.00	0.23	0.02	0.25	0.01	0.02	0.03	0.00	225.07	225.07	0.01	0.00	225.36
Unmitigated	0.20	0.48	1.99	0.00	0.23	0.02	0.25	0.01	0.02	0.03	0.00	225.07	225.07	0.01	0.00	225.36
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	231.45	0.00	0.00	423,490	423,490
Parking Lot	0.00	0.00	0.00		
Total	231.45	0.00	0.00	423,490	423,490

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Elementary School	8.90	13.30	7.40	65.00	30.00	5.00
Parking Lot	8.90	13.30	7.40	0.00	0.00	0.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	30.15	30.15	0.00	0.00	30.34
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	30.15	30.15	0.00	0.00	30.34
NaturalGas Mitigated	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	9.93	9.93	0.00	0.00	9.99
NaturalGas Unmitigated	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	9.93	9.93	0.00	0.00	9.99
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Elementary School	186150	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	9.93	9.93	0.00	0.00	9.99
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.01**	**0.01**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**9.93**	**9.93**	**0.00**	**0.00**	**9.99**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Elementary School	186150	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	9.93	9.93	0.00	0.00	9.99
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.01**	**0.01**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**9.93**	**9.93**	**0.00**	**0.00**	**9.99**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Elementary School	103650					30.15	0.00	0.00	30.34
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**30.15**	**0.00**	**0.00**	**30.34**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Elementary School	103650					30.15	0.00	0.00	30.34
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**30.15**	**0.00**	**0.00**	**30.34**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.15	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.15	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.14					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.14**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.14					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.14**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					5.27	0.01	0.00	5.68
Unmitigated					5.27	0.01	0.00	5.68
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Elementary School	0.434954 / 1.11845					5.27	0.01	0.00	5.68
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Total						**5.27**	**0.01**	**0.00**	**5.68**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Elementary School	0.434954 / 1.11845					5.27	0.01	0.00	5.68
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Total						**5.27**	**0.01**	**0.00**	**5.68**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					3.96	0.23	0.00	8.87
Unmitigated					3.96	0.23	0.00	8.87
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Elementary School	19.5					3.96	0.23	0.00	8.87
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**3.96**	**0.23**	**0.00**	**8.87**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Elementary School	19.5					3.96	0.23	0.00	8.87
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**3.96**	**0.23**	**0.00**	**8.87**

9.0 Vegetation

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons				MT			
Unmitigated					91.38	0.00	0.00	91.38
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

9.1 Vegetation Land Change

Vegetation Type

	Initial/Final	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	Acres	tons				MT			
Cropland	0.52 / 3.84					20.58	0.00	0.00	20.58
Total						**20.58**	**0.00**	**0.00**	**20.58**

9.1 Net New Trees

Species Class

	Number of Trees	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
		tons				MT			
Miscellaneous	100					70.80	0.00	0.00	70.80
Total						**70.80**	**0.00**	**0.00**	**70.80**

5892 Stoneview Nature Center ISMND - PREVIOUS LAND USE

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Parking Lot	61	Space
Elementary School	15	1000sqft

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Utility Company** Southern California Edison

Climate Zone 8 **Precipitation Freq (Days)** 33

1.3 User Entered Comments

Project Characteristics - LA-South Coast
Climate Zone 8
Operational Year 2010
SCE

Land Use - Total Lot Acreage: 5 ac
Elemtary School: 4.45 ac (15,000 sf bldg)
Parking: 0.55 ac

Construction Phase - Demo: 8/1/13 (22 days)
Site Prep: 8/31/13 (5 days)
Grading: 9/7/13 (9 days)
Building: 9/20/13 (250 days)
Paving: 9/5/14 (20 days)
Architectural Coating: 10/3/14 (20 days)

Off-road Equipment - 1x Air Compressor

Off-road Equipment - 1x Crane
3x Forklifts
1x Generator Set
Other Contruction Equipment = Pile Driver (1x; 7 hrs/day; 350 hp; 0.33 load factor)
1x Tractor/L/B
1x Welder

Off-road Equipment - 2x Pavers
2x Paving Equipment
2x Rollers

Demolition - Demolish approximately 15,000 sqft one-story buildings

Grading - 4.5 Acres disturbed per day during Grading
Assume balanced cut/fill

Architectural Coating - Frazee Paints:
Interior VOC - 15.3 g/L
Exterior VOC - 21.7 g/L

Area Coating - Frazee Paints:
Interior VOC - 15.3 g/L
Exterior VOC - 21.7 g/L

Energy Use - Default energy use values of Library Land Use Type

Land Use Change - Initial grass area 0.52 acre to final grass area 3.84 acre

Sequestration - Approximately 100 new miscellaneous trees.

Solid Waste - Solid Waste Default changed to Library Land Use Type

Construction Off-road Equipment Mitigation - Replace Ground Cover of Area Disturbed (32% Average - SCAQMD CEQA Handbook p. 11-15)
Water Exposed Area Twice a Day (55%)

Off-road Equipment - 2x Rubber Tired Dozers
3x Tractors/Loaders/Backhoes

Off-road Equipment - 1x Concrete Saw
3x Excavators
2x Rubber Tired Dozers

Off-road Equipment - 1x Excavator
1x Grader
1x Rubber Tired Dozer
3x Tractors/Loaders/Backhoes

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2011	11.14	89.90	52.04	0.08	18.34	4.62	22.96	9.94	4.62	14.56	0.00	8,220.46	0.00	1.00	0.00	8,241.50
2012	6.06	38.68	25.93	0.05	0.32	3.14	3.37	0.01	3.14	3.14	0.00	4,411.34	0.00	0.54	0.00	4,422.64
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2011	11.14	89.90	52.04	0.08	5.80	4.62	10.42	3.05	4.62	7.67	0.00	8,220.46	0.00	1.00	0.00	8,241.50
2012	6.06	38.68	25.93	0.05	0.32	3.14	3.37	0.01	3.14	3.14	0.00	4,411.34	0.00	0.54	0.00	4,422.64
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.80	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.01	0.05	0.04	0.00		0.00	0.00		0.00	0.00		60.00		0.00	0.00	60.37
Mobile	1.62	3.93	15.22	0.02	1.96	0.13	2.09	0.07	0.13	0.20		1,871.77		0.11		1,874.17
Total	**2.43**	**3.98**	**15.26**	**0.02**	**1.96**	**0.13**	**2.09**	**0.07**	**0.13**	**0.20**		**1,931.77**		**0.11**	**0.00**	**1,934.54**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.80	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.01	0.05	0.04	0.00		0.00	0.00		0.00	0.00		60.00		0.00	0.00	60.37
Mobile	1.62	3.93	15.22	0.02	1.96	0.13	2.09	0.07	0.13	0.20		1,871.77		0.11		1,874.17
Total	**2.43**	**3.98**	**15.26**	**0.02**	**1.96**	**0.13**	**2.09**	**0.07**	**0.13**	**0.20**		**1,931.77**		**0.11**	**0.00**	**1,934.54**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

3.2 Demolition - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.74	0.00	0.74	0.00	0.00	0.00						0.00
Off-Road	9.84	79.87	45.95	0.07		4.10	4.10		4.10	4.10		7,510.82		0.88		7,529.33
Total	**9.84**	**79.87**	**45.95**	**0.07**	**0.74**	**4.10**	**4.84**	**0.00**	**4.10**	**4.10**		**7,510.82**		**0.88**		**7,529.33**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.25	2.43	1.46	0.00	1.59	0.11	1.70	0.01	0.11	0.12		282.81		0.01		283.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.13	0.14	1.32	0.00	0.23	0.01	0.24	0.01	0.01	0.02		185.63		0.01		185.90
Total	**0.38**	**2.57**	**2.78**	**0.00**	**1.82**	**0.12**	**1.94**	**0.02**	**0.12**	**0.14**		**468.44**		**0.02**		**468.97**

3.2 Demolition - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.23	0.00	0.23	0.00	0.00	0.00						0.00
Off-Road	9.84	79.87	45.95	0.07		4.10	4.10		4.10	4.10	0.00	7,510.82		0.88		7,529.33
Total	**9.84**	**79.87**	**45.95**	**0.07**	**0.23**	**4.10**	**4.33**	**0.00**	**4.10**	**4.10**	**0.00**	**7,510.82**		**0.88**		**7,529.33**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.25	2.43	1.46	0.00	1.59	0.11	1.70	0.01	0.11	0.12		282.81		0.01		283.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.13	0.14	1.32	0.00	0.23	0.01	0.24	0.01	0.01	0.02		185.63		0.01		185.90
Total	**0.38**	**2.57**	**2.78**	**0.00**	**1.82**	**0.12**	**1.94**	**0.02**	**0.12**	**0.14**		**468.44**		**0.02**		**468.97**

3.3 Site Preparation - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	10.99	89.73	50.45	0.07		4.61	4.61		4.61	4.61		7,997.70		0.99		8,018.42
Total	**10.99**	**89.73**	**50.45**	**0.07**	**18.07**	**4.61**	**22.68**	**9.93**	**4.61**	**14.54**		**7,997.70**		**0.99**		**8,018.42**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.16	0.17	1.58	0.00	0.28	0.01	0.29	0.01	0.01	0.02		222.75		0.02		223.08
Total	**0.16**	**0.17**	**1.58**	**0.00**	**0.28**	**0.01**	**0.29**	**0.01**	**0.01**	**0.02**		**222.75**		**0.02**		**223.08**

3.3 Site Preparation - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.53	0.00	5.53	3.04	0.00	3.04						0.00
Off-Road	10.99	89.73	50.45	0.07		4.61	4.61		4.61	4.61	0.00	7,997.70		0.99		8,018.42
Total	**10.99**	**89.73**	**50.45**	**0.07**	**5.53**	**4.61**	**10.14**	**3.04**	**4.61**	**7.65**	**0.00**	**7,997.70**		**0.99**		**8,018.42**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.16	0.17	1.58	0.00	0.28	0.01	0.29	0.01	0.01	0.02		222.75		0.02		223.08
Total	**0.16**	**0.17**	**1.58**	**0.00**	**0.28**	**0.01**	**0.29**	**0.01**	**0.01**	**0.02**		**222.75**		**0.02**		**223.08**

3.4 Grading - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.55	0.00	6.55	3.31	0.00	3.31						0.00
Off-Road	7.18	55.38	32.83	0.05		3.27	3.27		3.27	3.27		5,240.07		0.64		5,253.60
Total	**7.18**	**55.38**	**32.83**	**0.05**	**6.55**	**3.27**	**9.82**	**3.31**	**3.27**	**6.58**		**5,240.07**		**0.64**		**5,253.60**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.13	0.14	1.32	0.00	0.23	0.01	0.24	0.01	0.01	0.02		185.63		0.01		185.90
Total	**0.13**	**0.14**	**1.32**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**185.63**		**0.01**		**185.90**

3.4 Grading - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.01	0.00	2.01	1.01	0.00	1.01						0.00
Off-Road	7.18	55.38	32.83	0.05		3.27	3.27		3.27	3.27	0.00	5,240.07		0.64		5,253.60
Total	**7.18**	**55.38**	**32.83**	**0.05**	**2.01**	**3.27**	**5.28**	**1.01**	**3.27**	**4.28**	**0.00**	**5,240.07**		**0.64**		**5,253.60**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.13	0.14	1.32	0.00	0.23	0.01	0.24	0.01	0.01	0.02		185.63		0.01		185.90
Total	**0.13**	**0.14**	**1.32**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**185.63**		**0.01**		**185.90**

3.5 Building Construction - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.11	40.22	24.03	0.04		2.80	2.80		2.80	2.80		4,040.62		0.55		4,052.11
Total	**6.11**	**40.22**	**24.03**	**0.04**		**2.80**	**2.80**		**2.80**	**2.80**		**4,040.62**		**0.55**		**4,052.11**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.13	1.28	0.91	0.00	0.06	0.05	0.10	0.00	0.05	0.05		163.93		0.01		164.06
Worker	0.15	0.16	1.50	0.00	0.26	0.01	0.27	0.01	0.01	0.02		210.38		0.01		210.69
Total	**0.28**	**1.44**	**2.41**	**0.00**	**0.32**	**0.06**	**0.37**	**0.01**	**0.06**	**0.07**		**374.31**		**0.02**		**374.75**

3.5 Building Construction - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.11	40.22	24.03	0.04		2.80	2.80		2.80	2.80	0.00	4,040.62		0.55		4,052.11
Total	**6.11**	**40.22**	**24.03**	**0.04**		**2.80**	**2.80**		**2.80**	**2.80**	**0.00**	**4,040.62**		**0.55**		**4,052.11**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.13	1.28	0.91	0.00	0.06	0.05	0.10	0.00	0.05	0.05		163.93		0.01		164.06
Worker	0.15	0.16	1.50	0.00	0.26	0.01	0.27	0.01	0.01	0.02		210.38		0.01		210.69
Total	**0.28**	**1.44**	**2.41**	**0.00**	**0.32**	**0.06**	**0.37**	**0.01**	**0.06**	**0.07**		**374.31**		**0.02**		**374.75**

3.5 Building Construction - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.63	37.37	23.73	0.04		2.54	2.54		2.54	2.54		4,040.62		0.51		4,051.23
Total	**5.63**	**37.37**	**23.73**	**0.04**		**2.54**	**2.54**		**2.54**	**2.54**		**4,040.62**		**0.51**		**4,051.23**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.11	1.17	0.82	0.00	0.06	0.04	0.10	0.00	0.04	0.05		164.39		0.01		164.51
Worker	0.13	0.14	1.37	0.00	0.26	0.01	0.27	0.01	0.01	0.02		206.33		0.01		206.62
Total	**0.24**	**1.31**	**2.19**	**0.00**	**0.32**	**0.05**	**0.37**	**0.01**	**0.05**	**0.07**		**370.72**		**0.02**		**371.13**

3.5 Building Construction - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.63	37.37	23.73	0.04		2.54	2.54		2.54	2.54	0.00	4,040.62		0.51		4,051.23
Total	**5.63**	**37.37**	**23.73**	**0.04**		**2.54**	**2.54**		**2.54**	**2.54**	**0.00**	**4,040.62**		**0.51**		**4,051.23**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.11	1.17	0.82	0.00	0.06	0.04	0.10	0.00	0.04	0.05		164.39		0.01		164.51
Worker	0.13	0.14	1.37	0.00	0.26	0.01	0.27	0.01	0.01	0.02		206.33		0.01		206.62
Total	**0.24**	**1.31**	**2.19**	**0.00**	**0.32**	**0.05**	**0.37**	**0.01**	**0.05**	**0.07**		**370.72**		**0.02**		**371.13**

3.6 Paving - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.86	35.62	21.08	0.03		3.13	3.13		3.13	3.13		2,917.64		0.53		2,928.70
Paving	0.08					0.00	0.00		0.00	0.00						0.00
Total	**5.94**	**35.62**	**21.08**	**0.03**		**3.13**	**3.13**		**3.13**	**3.13**		**2,917.64**		**0.53**		**2,928.70**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.12	0.13	1.21	0.00	0.23	0.01	0.24	0.01	0.01	0.02		182.06		0.01		182.31
Total	**0.12**	**0.13**	**1.21**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**182.06**		**0.01**		**182.31**

3.6 Paving - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.86	35.62	21.08	0.03		3.13	3.13		3.13	3.13	0.00	2,917.64		0.53		2,928.70
Paving	0.08					0.00	0.00		0.00	0.00						0.00
Total	**5.94**	**35.62**	**21.08**	**0.03**		**3.13**	**3.13**		**3.13**	**3.13**	**0.00**	**2,917.64**		**0.53**		**2,928.70**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.12	0.13	1.21	0.00	0.23	0.01	0.24	0.01	0.01	0.02		182.06		0.01		182.31
Total	**0.12**	**0.13**	**1.21**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**182.06**		**0.01**		**182.31**

3.7 Architectural Coating - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.43					0.00	0.00		0.00	0.00						0.00
Off-Road	0.52	3.16	1.96	0.00		0.29	0.29		0.29	0.29		281.19		0.05		282.18
Total	**3.95**	**3.16**	**1.96**	**0.00**		**0.29**	**0.29**		**0.29**	**0.29**		**281.19**		**0.05**		**282.18**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.02	0.03	0.24	0.00	0.05	0.00	0.05	0.00	0.00	0.00		36.41		0.00		36.46
Total	**0.02**	**0.03**	**0.24**	**0.00**	**0.05**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**		**36.41**		**0.00**		**36.46**

3.7 Architectural Coating - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.43					0.00	0.00		0.00	0.00						0.00
Off-Road	0.52	3.16	1.96	0.00		0.29	0.29		0.29	0.29	0.00	281.19		0.05		282.18
Total	**3.95**	**3.16**	**1.96**	**0.00**		**0.29**	**0.29**		**0.29**	**0.29**	**0.00**	**281.19**		**0.05**		**282.18**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.02	0.03	0.24	0.00	0.05	0.00	0.05	0.00	0.00	0.00		36.41		0.00		36.46
Total	**0.02**	**0.03**	**0.24**	**0.00**	**0.05**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**		**36.41**		**0.00**		**36.46**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.62	3.93	15.22	0.02	1.96	0.13	2.09	0.07	0.13	0.20		1,871.77		0.11		1,874.17
Unmitigated	1.62	3.93	15.22	0.02	1.96	0.13	2.09	0.07	0.13	0.20		1,871.77		0.11		1,874.17
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	231.45	0.00	0.00	423,490	423,490
Parking Lot	0.00	0.00	0.00		
Total	231.45	0.00	0.00	423,490	423,490

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Elementary School	8.90	13.30	7.40	65.00	30.00	5.00
Parking Lot	8.90	13.30	7.40	0.00	0.00	0.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.01	0.05	0.04	0.00		0.00	0.00		0.00	0.00		60.00		0.00	0.00	60.37
NaturalGas Unmitigated	0.01	0.05	0.04	0.00		0.00	0.00		0.00	0.00		60.00		0.00	0.00	60.37
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Elementary School	510	0.01	0.05	0.04	0.00		0.00	0.00		0.00	0.00		60.00		0.00	0.00	60.37
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.01**	**0.05**	**0.04**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**60.00**		**0.00**	**0.00**	**60.37**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Elementary School	0.51	0.01	0.05	0.04	0.00		0.00	0.00		0.00	0.00		60.00		0.00	0.00	60.37
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.01**	**0.05**	**0.04**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**60.00**		**0.00**	**0.00**	**60.37**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.80	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Unmitigated	0.80	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.02					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.78					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.80**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.02					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.78					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.80**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Localized Significance Analysis

SiteID	SR	Feet	Meters	SRA	AirBasin	Emissions PM10	Emissions PM2.5	Thresholds PM10	Thresholds PM2.5		Exceedances PM10	Exceedances PM2.5
Single Family Residence - 5924 Stoneview Drive	Residence	47.3	14.4	2	S	14.76	9.34	13	6		Yes	Yes
Single Family Residence - 5922 Stoneview Drive	Residence	63.3	19.3	2	S	14.76	9.34	13	6		Yes	Yes
Single Family Residence - 5924 Stoneview Drive (Mitigated)	Residence	47.3	14.4	2	S	6.41	4.75	13	6		No	No
Single Family Residence - 5922 Stoneview Drive (Mitgated)	Residence	63.3	19.3	2	S	6.41	4.75	13	6		No	No
0	0	0	0	0	S	0	0	0	0		No	No

SiteID	SR	Feet	Meters	SRA	AirBasin	Emissions NOx	Emissions CO	Thresholds NOx	Thresholds CO		Exceedances NOx	Exceedances CO
Single Family Residence - 5924 Stoneview Drive	Residence	47.3	14.4	2	S	54.54	31.17	221	1531		No	No
Single Family Residence - 5922 Stoneview Drive	Residence	63.3	19.3	2	S	54.54	31.17	221	1531		No	No
Single Family Residence - 5924 Stoneview Drive	Residence	47.3	14.4	2	S	54.54	31.17	221	1531		No	No
Single Family Residence - 5922 Stoneview Drive (Mitgated)	Residence	63.3	19.3	2	0	54.54	31.17	221	1531		No	No
0	0	0	0	0	0	0	0	0	0		No	No

Threshold Parameters to Compare to
5 acre site
at 25m

APPENDIX C

PRELIMINARY GEOTECHNICAL INVESTIGATIONS

REPORT OF PRELIMINARY GEOTECHNICAL INVESTIGATION

OHR ELIYAHU ACADEMY CAMPUS
5950 STONEVIEW DRIVE
CULVER CITY, CALIFORNIA

Prepared for:

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

Los Angeles, California

April 30, 2012

Project 4953-12-0171

April 30, 2012

Ms. Zohreh Kabiri, CCM, LEED AP
Capital Projects Manager
Project Management Division II
Los Angeles County Department of Public Works
900 South Fremont Avenue, 5th Floor
Alhambra, California 91803-1331

Subject: **LETTER OF TRANSMITTAL**
Report of Preliminary Geotechnical Investigation
Ohr Eliyahu Academy Campus
5950 Stoneview Drive
Culver City, California
AMEC Project 4953-12-0171

Dear Ms. Kabiri:

We are pleased to submit the results of our preliminary geotechnical investigation for the proposed buildings planned in the northeastern portion of the Ohr Eliyahu Academy Campus located at 5950 Stoneview Drive in Culver City, California. This investigation was conducted in general accordance with our proposal dated November 9, 2011 and your Notice-to-Proceed dated February 8, 2012 under As-Needed Contact No. PW13297 between Los Angeles County Department of Public Works and AMEC Environment and Infrastructure, Inc. (formerly MACTEC Engineering and Consulting, Inc.).

The scope of our services was planned based on our discussions with Mr. Rick Sun of your office. Mr. Sun also furnished us with a site plan showing the location of the possible building area. The current scope included performing geotechnical explorations at the site to determine the thickness of the existing undocumented fill and to evaluate the fill for support of the proposed buildings. This preliminary report does not include recommendations for design of foundations, floor slab or for earthwork. Additional geotechnical investigations will need to be performed to further evaluate the fill, when the locations of the buildings and the structural details are finalized.

We performed a fault rupture hazard investigation at the Ohr Eliyahu Academy Campus in 2010 and presented the results in a report dated October 18, 2010. Due to significant thickness of the existing fill in the northeastern portion of the campus where the subject site is located, the site could not be explored with trenches and the potential for fault rupture beneath the site could not be defined. Therefore, additional fault investigations should be performed at the site.

Correspondence:
AMEC Environment and Infrastructure, Inc.
5628 East Slauson Avenue
Los Angeles, California 90040, USA
Tel +1 (323) 889-5300
Fax +1 (323) 889-5398

It has been a pleasure to be of professional service to you. Please contact us if you have any questions or if we can be of further assistance.

Sincerely,

AMEC Environment and Infrastructure, Inc.

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Attachments

REPORT OF GEOTECHNICAL INVESTIGATION

OHR ELIYAHU ACADEMY CAMPUS
5950 STONEVIEW DRIVE
CULVER CITY, CALIFORNIA

Prepared for:

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

Los Angeles, California

AMEC ENVIRONMENT AND INFRASTRUCTURE, INC.

Los Angeles, California

April 30, 2012

Project 4953-12-0171

TABLE OF CONTENTS

EXECUTIVE SUMMARY

We have completed our preliminary geotechnical investigation of the site of the proposed buildings planned in the northeastern portion of the Ohr Eliyahu Academy campus located at 5950 Stoneview Drive in Culver City. Our subsurface explorations, engineering analyses, and preliminary recommendations for foundation alternatives are summarized below.

The soil conditions beneath the site were explored by drilling six borings to depths of about 90 to 100 feet below the existing grade. Existing fill soils were encountered to depths of about 17 to 23 feet below the existing ground surface. Beneath the fill soils, colluvium about 7 to 22 feet thick was encountered in Borings B-3, B-4 and B-6. Colluvium was not encountered in Borings B-1, B-2 and B-5. Colluvium generally consisted of medium dense silty sand, clayey sand and poorly graded sand and stiff sandy silt. Beneath the colluvium, early Pleistocene age deposits mapped as the San Pedro Formation (CGS, 2005) and as the Culver Sand (CDMG, 1982) were encountered to the 100-foot drilled depth. The San Pedro formation primarily consists of dense to very dense silty sands and sands interbedded with occasional very stiff to hard silt layers. Groundwater was encountered at depths of about 72 to 78 feet below ground surface at the time of drilling. Significant groundwater was encountered below these depths requiring the use of water during drilling to stabilize the heaving saturated sands in the drilling auger. In addition, perched and/or artesian water groundwater conditions could exist at the site due to the presence of several faults crossing the campus.

The existing fill was likely placed during the original grading of the campus. The fill soils were not inspected or tested by our firm. In addition, based on our discussions with Mr. Rick Sun of your office, inspection and testing records of the existing fill, if performed by other consultants, are not available. Therefore, the existing fill is considered as undocumented fill.

The fill primarily consist of silty sands, clayey sands and poorly graded sands with occasional sandy clay layers. The fill did not contain any debris or organic matter. The Standard Penetration Test (SPT) N-value within the fill varies from 10 to 30 blows per foot. The dry densities within the fill generally vary from 100 to 120 pounds per cubic foot and relative compaction between 82 and 92 percent. Based on the field blow counts, field densities and the relative compaction, it appears that the fill is not uniformly well compacted across the site. Due to predominantly granular nature of the fill, the ring samples of the existing fill may have been disturbed during sampling and in transportation to the laboratory, resulting in lower densities and lower compaction levels. It is noted that relative compaction of fill can be reliably obtained using field density tests such as sand cone tests and/or nuclear density tests. However, since field density tests would require extensive trenching and will be cost prohibitive, additional explorations consisting of closely-spaced cone penetration tests and/or shallow borings may be performed to evaluate the variability of existing fill underlying the site in the next phase.

Based on the results of the current investigation, the compaction levels within the existing fill do not meet the minimum compaction of 90% of the maximum dry density commonly recommended for structural fill beneath buildings and for slopes. Although the existing fill consisted of relatively clean granular soils without debris and organic matter, the variable compaction levels of the fill could result in differential settlements that would be considered excessive for a conventional spread footing option. Therefore, it is recommended that proposed buildings be supported on deep foundations consisting of either drilled cast-in-place piles or driven precast concrete piles extending into natural soils. A structurally-supported floor slab should be used with the deep foundation option.

Alternatively, if the estimated total and differential settlement within undocumented fill can be accommodated in the design, the proposed buildings may be supported on mat foundations. A mat foundation option would be more desirable particularly since the foundation can be re-leveled using mud-jacking, if required at a later time. Although not recommended, spread footings inter-connected with grade beams and thickened and heavily reinforced slab may be considered for support of non-habitable buildings/structures, if the risk of settlement from existing fill is considered acceptable. The advantages and disadvantages of shallow and deep foundation options as wells as the risks associated with settlements are discussed in more detail in the attached report.

1.0 SCOPE

This report provides the results of the preliminary geotechnical investigation performed for the proposed buildings planned in the northeastern portion of the Ohr Eliyahu Academy campus located at 5950 Stoneview Drive in Culver City. The location of the campus is shown on Figure 1, Vicinity Map. The locations of the possible building area, existing buildings, and current and prior exploration borings and trenches are shown on Figure 2, Plot Plan.

We previously performed a fault rupture hazard investigation at the Ohr Eliyahu Academy campus in 2010 and presented the results in a report dated October 18, 2010 (our Job No. 4953-10-1091). Fault trenches varying in depth from 5 to 16 feet below ground surface were performed to log the subsurface geologic structures and features exposed in the trenches and to evaluate the presence of potential faults at the campus. Faults were encountered in the trenches and are deemed to be associated with movement of the active Newport-Inglewood fault zone and therefore could be potential sources of future surface rupture. Based on the fault investigation, limits of non-buildable area for habitable structures were demarcated as shown on Figure 2. Due to fill thicknesses exceeding 16 feet encountered in the eastern portions of the trenches (near the subject site), the potential for fault rupture hazard at the site could not be defined. Therefore, it was recommended that additional fault investigations be performed in this area to evaluate the potential for surface fault rupture.

This preliminary geotechnical investigation was authorized to determine the physical characteristics of the soils at the site of the proposed buildings. Specifically, the current scope included performing geotechnical explorations at the site to determine the thickness of the existing undocumented fill and to evaluate the fill for support of the proposed buildings. This preliminary report does not include recommendations for design of foundations, floor slab or for earthwork. Additional geotechnical investigations will need to be performed to further evaluate the fill when the locations of the buildings and the structural details are finalized. Furthermore, the scope did not include evaluating the global stability of existing fill slopes due to construction of the proposed buildings.

Subsurface information is also available to a limited extent from a prior geotechnical investigation performed by Jacobs Engineering Group, Inc., as presented in their report dated February 1, 2007.

Based on the results of the current geotechnical investigation and review of subsurface data from prior investigation, we were to evaluate existing fill soils and to study the feasibility of supporting proposed buildings within the existing fill. A discussion regarding use of different foundation types (spread footings, mat foundation or deep foundations) and their respective advantages and disadvantages from design and construction standpoint are provided in the report.

Our current scope did not include performing a geologic-seismic hazards evaluation of the subject site. However, as previously stated, we performed a fault rupture hazard investigation and geologic-seismic hazards evaluation of the campus and presented the results in a report dated October 18, 2010 (our Job No. 4953-10-1091).

Also, the assessment of general site environmental conditions for the presence of contaminants in the soils and groundwater of the subject site was beyond the scope of this investigation. However, we previously performed an environmental investigation for the campus, concurrently with the fault investigations in 2010 and presented the results in a report dated October 22, 2010 (our Job No. 4953-10-1091).

Our preliminary recommendations are based on the results of our field explorations, laboratory tests, and appropriate engineering analyses. The results of the current field explorations and laboratory tests are presented in Appendix A. The relevant logs of borings drilled near the subject site from our prior environmental investigation are presented in Appendix B. The logs of borings and laboratory test results from prior investigation by Jacobs Engineering Group, Inc., are presented in Appendix C.

2.0 PROJECT DESCRIPTION AND SITE CONDITIONS

We understand that future buildings are planned in the northeastern portion of the Ohr Eliyahu Academy campus. The possible building area is shown on Figure 2, Plot Plan. The exact locations of the buildings and the structural details are not available at this time. We were requested to perform a preliminary geotechnical investigation at the subject site and to evaluate existing fill for support of proposed buildings. Additional fault investigations will be required to evaluate the potential for surface fault rupture at the site.

The campus is located within the northern part of the Baldwin Hills in Culver City, California. The campus is bounded on the north and northeast by a residential development and on the south, southeast and southwest by oil-lease land associated with the Inglewood Oil Field and parkland.

The subject site is located in the northeastern portion of the campus and generally consists of relatively level fill pad with surface elevations varying between 235 feet and 238 feet above mean sea level. A 2:1 (horizontal: vertical) fill slope descends approximately 20 feet down in the eastern and northern portions of the site.

The site is currently used as a grass sports field. An asphalt parking lot is located to the south of the site. A petroleum gas pipeline, owned and operated by Chevron, bisects the campus in a generally north-south direction. The pipeline is located about 120 feet to the west of the site. Various underground utilities cross the site. Geophysical surveys were performed at the campus in 2010 as part of the environmental investigation to locate abandoned wells and any other subsurface infrastructure. Several metal pipes or linear subsurface features associated with utilities were detected at the subject site. The results of the geophysical survey along with a plan showing the utilities were presented in our report dated October 22, 2010 (our Job No. 4953-10-1091).

3.0 FIELD EXPLORATIONS AND LABORATORY TESTS

The soil conditions beneath the site were explored by drilling six borings to depths of about 90 to 100 feet below the existing grade at the locations shown on Figure 2. Details of the current explorations and the logs of the borings are presented in Appendix A. Subsurface information at and in the vicinity of the site is also available from prior geotechnical investigation performed by Jacobs Engineering Group, Inc., in 2007. The logs of the borings from prior investigation are included in Appendix B.

Laboratory tests were performed on selected samples obtained from the current borings to aid in the classification of the soils and to determine the pertinent engineering properties of the foundation soils. The following tests were performed:

- Moisture content and dry density determinations.
- Direct shear.
- Consolidation.
- Passing No. 200 sieve.
- Compaction.

The laboratory testing was performed in general accordance with applicable ASTM specifications at the time of testing. Details of the current laboratory testing program and test results are presented in Appendix A. The relevant logs of borings near the subject site from our prior environmental investigation are presented in Appendix B. The logs of borings and laboratory test results from prior investigation by Jacobs Engineering Group, Inc., are presented in Appendix C.

4.0 SOIL AND GROUNDWATER CONDITIONS

Existing fill soils were encountered to depths of about 17 to 23 feet below the existing ground surface. The deeper fill soils were encountered in the northeastern portion of the site. The fill soils primarily consisted of silty sands, clayey sands and poorly graded sands with occasional sand clay layers. The fill soils did not contain any debris or organic matter. The field Standard Penetration Test (SPT) N-values varies from 10 to 30 blows per foot. The dry densities generally vary from 100 to 120 pounds per cubic foot and relative compaction between 82 to 92 percent. Based on the field blow counts, dry densities and compaction level, it appears that the fill is not uniformly well compacted across the site.

Beneath the fill soils, colluvium about 7 to 22 feet thick was encountered in Borings B-3, B-4 and B-6. Colluvium was not encountered in Borings B-1, B-2 and B-5. Colluvium generally consisted of medium dense silty sand, clayey sand and poorly graded sand and stiff sandy silt. Beneath the colluvium, early Pleistocene age deposits mapped as the San Pedro Formation (CGS, 2005) and as the Culver Sand (CDMG, 1982) were encountered to the drilled 100-foot depth. The San Pedro formation primarily consists of dense to very dense silty sands and sands interbedded with occasional very stiff to hard silt layers. The thickness of the Pleistocene age section is estimated to be about 300 feet. Underlying the Pleistocene deposits are Tertiary age sedimentary rocks which overlie basement rocks composed of the Mesozoic age Catalina Schist at a depth of about 12,000 feet.

Groundwater was measured in the borings at depths of about 72 to 78 feet below ground surface at the time of drilling. Significant water was encountered below these depths requiring the use of water during drilling to stabilize the heaving saturated sands in drilling auger. Perched and/or artesian water groundwater conditions could exist at the site due to the presence of several faults crossing the campus.

A geotechnical investigation was also performed at the campus by Jacobs Engineering Group, Inc., in 2007. At least two borings performed for this investigation are located at and immediately adjacent to the subject site. These borings were drilled to depths of about 51½ below ground surface. The locations of these borings are shown on Figure 2. Boring B-JE3 which is located within the subject site encountered 21 feet of fill. The fill primarily consists of silty sand and clay with no evidence of debris or organic matter. Groundwater was not encountered to the 51½-foot drilled depth in these borings.

For a detailed description of the site geology and results of the geologic and seismic hazards evaluation of the campus, please refer to our report dated October 18, 2010.

5.0 PRELIMINARY RECOMMENDATIONS

Existing fill soils were encountered to depths of about 17 to 23 feet below the existing ground surface. The fill was likely placed during the original grading of the campus. Cut slopes with inclinations varying from about 1:1 to ¾:1 (horizontal to vertical) ascends approximately 20 to 65 feet from the west and south side of the campus. A 2:1 (horizontal to vertical) fill slope descends approximately 20 feet in the northeastern portion of the campus where the proposed site is located. Based on the current borings it appears that about 20 to 25 feet of fill was placed at the site to raise the ground to the current grades which vary from Elevation 235 to 238. The fill pad extends beyond the limits of the site, with the greatest fill thickness in the northeastern portion of the subject site, as observed in the current borings.

The existing fill soils were not inspected during their placement or tested by our firm. In addition, based on our discussions with Mr. Rick Sun of your office, inspection and testing records of the fill, if performed by other consultants, are not available. Therefore, the existing fill is considered as undocumented fill.

The fill soils primarily consist of silty sands, clayey sands and poorly graded sands with occasional sandy clay layers. The fill did not contain any debris or organic matter. The Standard Penetration Test (SPT) N-values within the fill vary from 10 to 30 blows per foot. The dry densities within the fill generally vary from 100 to 120 pounds per cubic foot. Based on the maximum dry density of 130 pounds per cubic feet obtained from three compaction tests of the upper fill material, relative compaction of the fill was computed to be between 82 and 92 percent. Based on the field blow counts, field densities and the relative compaction, it appears that the fill is not uniformly well compacted across the site. Due to predominantly granular nature of the fill, the ring samples of the existing fill may have been disturbed during sampling and in transportation to the laboratory, resulting in lower densities and lower compaction levels. It is noted that relative compaction of fill can be reliably obtained using field density tests such as sand cone tests and/or nuclear density tests. However, since field density tests would require extensive trenching and will be cost prohibitive, additional explorations consisting of closely-spaced cone penetration tests and/or shallow borings may be performed to evaluate the variability of existing fill underlying the site.

Based on the results of the current investigation, the compaction levels within the existing fill do not meet the minimum compaction of 90% of the maximum dry density commonly recommended for structural fill beneath buildings and for slopes. Although the existing fill consisted of relatively clean granular soils without debris and organic matter, the variable compaction levels of the fill could result in differential settlements that would be considered excessive for a conventional spread footing option. Therefore, it is recommended that proposed buildings be supported on deep foundations consisting of either drilled cast-in-place piles or driven precast concrete piles extending into natural soils. A structurally-supported floor slab should be used with the deep foundation option.

Alternatively, if the estimated total and differential settlement within undocumented fill can be accommodated in the design, the proposed buildings may be supported on mat foundations. A mat foundation option would be more desirable particularly since the foundation can be re-leveled using mud-jacking, if required at a later time. Although not recommended, spread footings inter-connected with grade beams and thickened and heavily reinforced slab may be considered for support of non-habitable buildings/structures if the risk of settlement from existing fill is considered acceptable. The advantages and disadvantages of shallow and deep foundation options as wells as the risks associated with settlements are discussed in more detail in the following sections.

Option 1: Deep Foundations

If deep foundation option is selected, the piles should extend into natural soils to support the building dead-plus-live loads as well as the downdrag loads imposed on the piles from the settlement of existing fill soils and natural soils due to seismically-induced settlement. In addition, colluvium encountered in some of the borings is somewhat weaker and more compressible than the underlying San Pedro formation. A determination of whether downdrag loads will be imposed on the pile foundations from the colluvium and/or if any axial pile capacities can be derived in these soils should be made during the final geotechnical investigation.

Considering that the soils beneath the site are predominantly granular, a driven pile option will be more desirable than a drilled pile option. A displacement pile such as driven pile will densify the granular soils and result in higher axial capacities compared to a non-displacement drilled and cast-in-place pile. If a drilled pile option is chosen, for an equivalent pile diameter, the drilled piles will be longer than driven piles, and could extend below the current groundwater level, requiring the use of drilling mud for pile installation. Furthermore, the volume of the soil cuttings derived from drilled pile excavations will be significantly more than compared to driven pile installation.

The majority of the building lateral load is resisted by the upper 20 to 30 feet of the soils against pile and pile caps. Due to the presence of undocumented fill within this portion, the lateral capacities of the piles will be limited. Therefore, larger diameter piles, pile caps and grade beams should be anticipated to resist the lateral loads.

Option 2: Shallow Foundations (Mat Foundation or Spread Footings)

As an alternative to deep foundations, mat foundations for habitable buildings and spread footings inter-connected with grade beams for non-habitable buildings/structures could be considered. A mat foundation would be more desirable particularly since the foundation could be re-leveled using mud-jacking, if required.

Although it is difficult to predict settlements in undocumented fill, based on the consolidation test results of the existing fill, differential settlement on the order of about 1½ inches is anticipated across the site. The differential settlement stated above should be added to the static settlement computed under building loads. In addition, seismically-induced settlement within dry and partially saturated loose to medium-dense granular soils above the groundwater level should be added to the settlements stated above. Furthermore, a stated earlier, colluvium encountered in some of the borings is somewhat weaker and more compressible than the underlying San Pedro formation and could contribute to additional settlement upon saturation or under foundation loads. Additional consolidation testing is recommended in the colluvium to evaluate its compressibility during the final geotechnical investigation.

The onsite fill soils have a potential for hydroconsolidation and would become compressible when wet. Therefore, for improved support of the proposed buildings on mat foundation and non-habitable structures on spread footings, it is recommended that these foundations be underlain by at least 3 feet of properly compacted and tested fill. The recommended 3-foot compacted layer should extend at least 3 feet laterally beyond the foundations in plan view. The floor slab should be underlain by at least 2 feet of properly compacted and tested fill. If a mat foundation is used, the floor slab may be placed on the mat foundation. The fill soils beneath foundations and floor slab should be compacted to at least 95% of the maximum dry density obtainable by the ASTM Designation D1557 method of compaction.

6.0 GENERAL LIMITATIONS AND BASIS FOR RECOMMENDATIONS

Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable geotechnical consultants practicing in this or similar localities. No other warranty, expressed or implied, is made as to the professional advice included in this report. This report has been prepared for Los Angeles County Department of Public Works and their design consultants to be used solely in the design of the proposed buildings planned at Ohr Eliyahu Academy campus. This report has not been prepared for use by other parties, and may not contain sufficient information for purpose of other parties or other uses.

The preliminary recommendations provided in this report are based upon our understanding of the described project information and on our interpretation of the data collected during current and prior subsurface explorations. We have made our preliminary recommendations based upon experience with similar subsurface conditions under similar loading conditions. The preliminary recommendations apply to the specific project discussed in this report; therefore, any change in the structure configuration, loads, location, or the site grades should be provided to us so that we can review our conclusions and recommendations and make any necessary modifications.

Additional fault investigations are recommended to evaluate the potential for surface fault rupture at the subject site. Additional geotechnical investigations consisting of closely-spaced cone penetration tests and/or shallow borings may be performed to evaluate the variability of compaction level within existing fill.

7.0 BIBILIOGRAPHY

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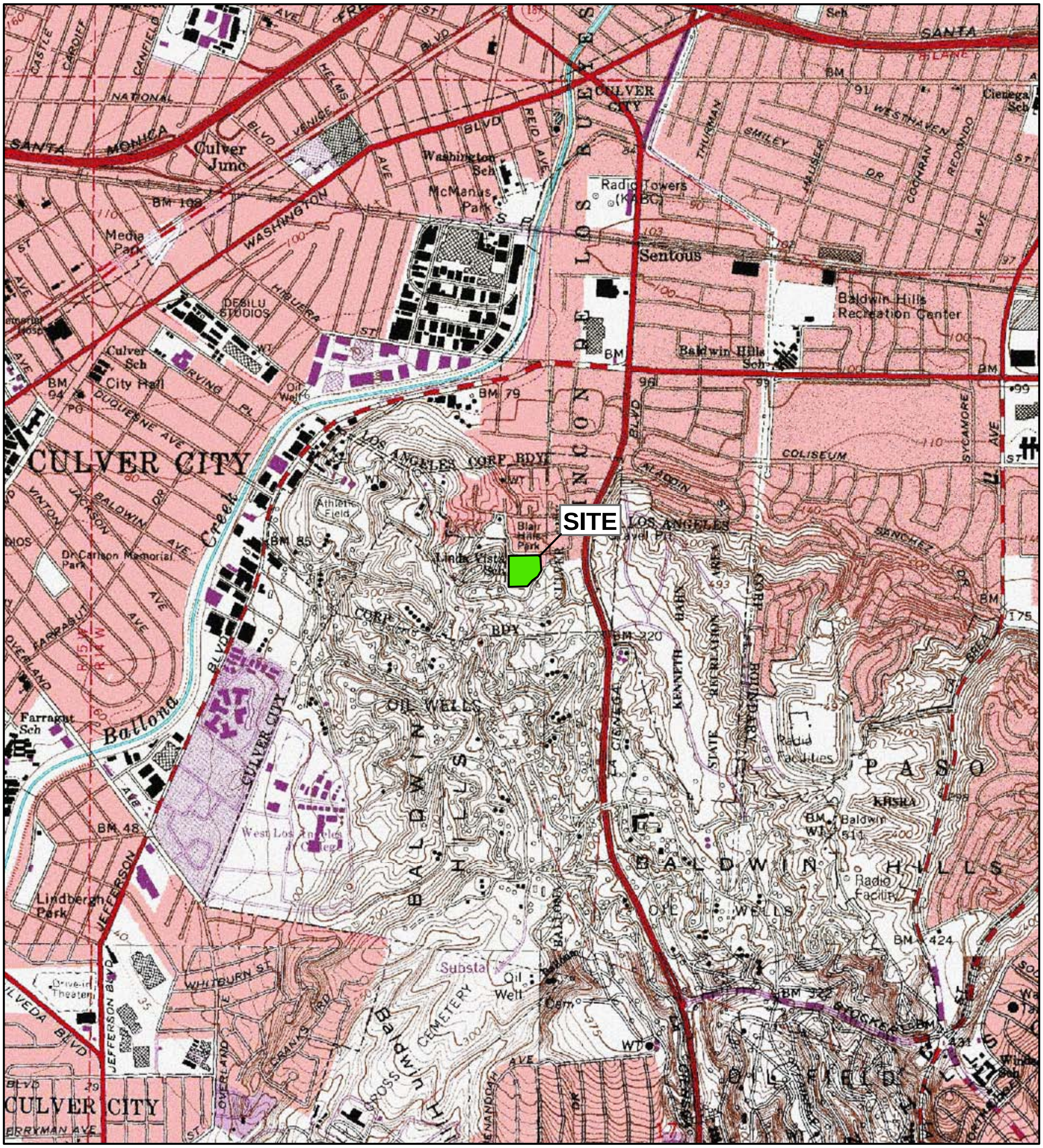
LeRoy Crandall and Associates, 1988, "Evaluation of Toxic/Hazardous Materials Potential – Vista Pacifica Property, Bowcraft Street and Jefferson Boulevard, Culver City, California," Project No. F-88452.

FIGURES



Base: USGS 7.5 minute topographic quadrangles
(NRCS stiched spatial version)

N

Coordinates

Lat: 34.014019°
Lon: -118.376994°

0 1,000 2,000 3,000 4,000

Feet

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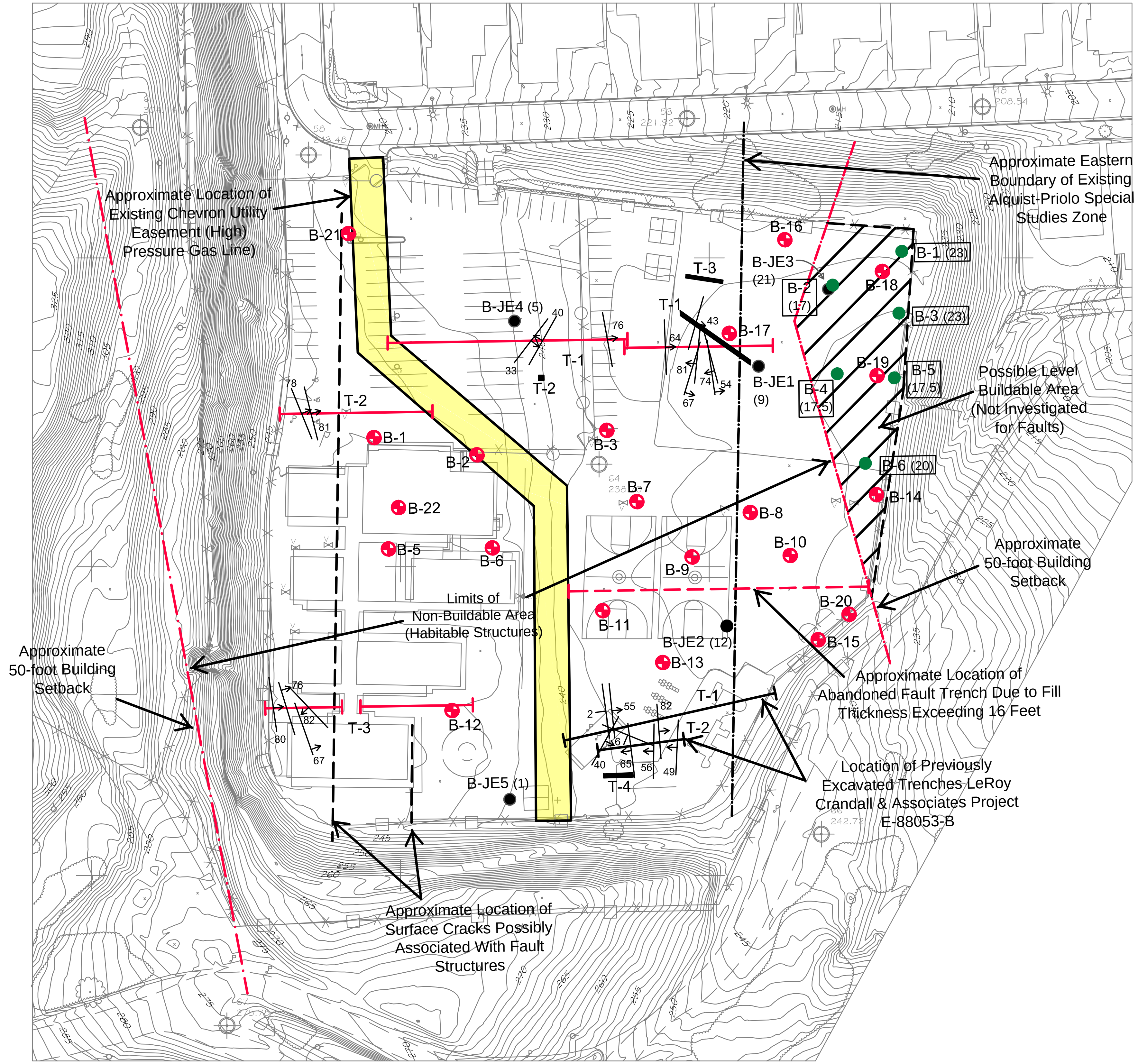
AMEC ENVIRONMENT & INFRASTRUCTURE, Inc
5628 E. SLAUSON AVE.
LOS ANGELES, CALIFORNIA 90040
(323) 889-5300 fax (323) 889-5398

Figure 1. Site Vicinity Map
5950 Stoneview Drive
Culver City, California

JOB NO.:	4953-12-0171	REVISIONS:
DATE:	02/27/2012	
SCALE:	1:24,000	
DRAWN BY:	PWK	
CHECKED BY:	HP	

Path: G:\4953_Geotech\2012\4953-12-0171_LACDPW Stoneview\GIS\Figure 1_Site Vicinity Map.mxd



CURRENT EXPLORATIONS

B-6 (20) — Geotechnical Boring Locations

Thickness of Existing fill (in feet)

PREVIOUS EXPLORATIONS

B-20 — Environmental Boring Locations (4953-10-1091)

Note: B-4 was a contingency boring & was not drilled

B-JE2 (12) — Locations Approximate of Prior Borings (Jacobs Report)

Thickness of Existing fill (in feet)

76, T-3 — Fault Trench with Prior Fault Locations (4953-10-1091)

T-2, 49 — Fault Trench with Prior Fault Locations (E-88053-B)

T-4 — Approximate Locations of Prior Test Trench/Pit (Jacobs Report)

GEOLOGIC SYMBOLS

49 — Strike and Dip of Fault Observed in Trench Excavation

BASE MAP

1-foot Pixel Resolution Orthoimagery, Los Angeles County Department of Regional Planning, Time Period (01/01/2008-07/01/2008)

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EXPLORATION PLAN

JOB:	4953-12-0171
LT,LNG:	
SCALE:	1" = 80'
DRAWN:	V. Nguyen
CHKD:	H. Ponnaboyina
PM:	P. Elliott
DATE:	4/26/2012

Ohr Eliyahu Academy Campus
5950 Stoneview Drive
Culver City, California

FIGURE NO. 2

PROJECT NO. 4953-12-0171

APPENDIX A

CURRENT FIELD EXPLORATIONS AND LABORATORY TEST RESULTS

CURRENT FIELD EXPLORATIONS AND LABORATORY TEST RESULTS

FIELD EXPLORATIONS

The soil conditions beneath the site were explored by drilling six borings at the locations shown on Figure 2. The borings were drilled to depths of about 90 and 100 feet below the existing grade using hollow-stem auger drilling equipment and a CME85 drilling rig.

The soils encountered were logged by our field technician and undisturbed and bulk samples were obtained for laboratory inspection and testing. The logs of the borings are presented on Figures A-1.1 through A-1.6; the depths at which undisturbed samples were obtained are indicated to the left of the boring logs. The number of blows required to drive the Standard Penetration Test (SPT) and Crandall sampler 12 inches using 140 pound automatic hammer and 30-inch drop, is indicated on the logs. The soils are classified in the accordance with the Unified Soil Classification System described on Figure A-2.1. The Crandall sampler has an inside and outside diameters of 2.625 and 2.75 inches, respectively. A schematic illustration of the Crandall sampler is presented in Figure A-2.2

LABORATORY TESTS

Laboratory tests were performed on selected samples obtained from the borings to aid in the classification of the soils and to determine their engineering properties.

The field moisture content and dry density of the soils encountered were determined by performing tests on the undisturbed samples. The results of the tests are shown to the left on the boring logs.

To assist with soil classification, tests to determine the percentage of fines (material passing through a -200 sieve) in selected samples were performed. The results of these tests are presented on the boring logs.

Direct shear tests were performed on selected undisturbed samples of existing fill and natural soils to determine the strength of these soils. The tests were performed after soaking to near-saturated moisture content and at various surcharge pressures. The yield-point values determined from the direct shear tests are presented on Figure A-3, Direct Shear Test Data.

Confined consolidation tests were performed on undisturbed samples of fill and natural soils to determine the compressibility of these soils. Water was added to the samples during the tests to illustrate the effect of moisture on the compressibility. The results of the tests are presented on Figure A-4.1 through 4.3, Consolidation Test Data.

The optimum moisture content and maximum dry density of the upper soils were determined by performing three compaction tests on bulk samples of fill material. The tests were performed in accordance with the ASTM Designation D1557 method of compaction. The results of the tests are presented on Figure A-5, Compaction Test Data.

BORING 1

DATE DRILLED: February 14, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 238 **

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	USCS	DESCRIPTION
	0						SM	FILL - SILTY SAND - moist, light yellowish brown and brown, fine to medium grained
235								
	5							
			3.8	119	51			Trace ¼-inch gravel
230								
		17	6.5	-				Becomes dark brown, some coarser grained
	10							
			14.2	106	23			Becomes dark brown to yellowish-brown and olive green mottling, interbedded with poorly graded sand layer
225								
	15	15	11.5	-			SP-SM	FILL - POORLY GRADED SAND with SILT - moist, yellow, trace slate fragments, trace ¼-gravel
220			7.4	102	29			(7% Passing No. 200 Sieve)
	20							
		19	10.3	-				Becomes silty sand, moist, light brown and dark brown mottling, fine to medium grained, more slate fragments
215							ML	**SAN PEDRO FORMATION** SANDY SILT - moist, brownish gray, fine sand
			10.8	105	26		SP-SM	POORLY GRADED SAND with SILT - medium dense, moist, yellowish brown, fine grained, some coarse, trace ¼-inch gravel, trace iron oxide stains
	25							
		17	11.2	-				
210								
	30		13.3	99	39			
205								
							ML	SANDY SILT - moist, reddish brown, fine sand
	35	23	20.0	-			SP	POORLY GRADED SAND - medium dense, moist, light brown, fine grained
200								
	40		5.3	98	49			

(CONTINUED ON FOLLOWING FIGURE)

Field Tech: AR
Prepared By: WL
Checked By: LT/PE 3/12/12

Ohr Eliyahu Academy Campus
5950 Stoneview Drive
Culver City, California

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LOG OF BORING
Project: 4953-12-0171 Figure: A-1.1a

BORING 1 (Continued)

DATE DRILLED: February 14, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 238 **

DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	USCS	DESCRIPTION
						Becomes dense
45	45	4.8	-			
						Becomes slightly coarser, trace ¼-inch gravel
					SP-SM	POORLY GRADED SAND with SILT - dense, moist, gray, fine to medium grained, some coarse
50		4.0	106	69		
						Trace ¼-inch gravel
						Becomes very dense
55	85	4.4	-			
						More ¼-inch gravel
60		5.9	103	80		
					SP	POORLY GRADED SAND - very dense, moist, reddish brown and gray mottling, fine to medium grained, trace slates and gravel, trace iron oxide stains
65	68	5.6	-			Becomes fine grained
70		6.4	91	68		Becomes dense, brown, fine grained, some silt
						(Slight water seepage)
75	54	25.3	-			
						(Water added during drilling to prevent caving)
80		4.1	101	100		

ELEVATION (ft): 195, 190, 185, 180, 175, 170, 165, 160

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

(CONTINUED ON FOLLOWING FIGURE)

Field Tech: AR
Prepared By: WL
Checked By: LT/PE 3/12/12

Ohr Eliyahu Academy Campus
5950 Stoneview Drive
Culver City, California

amec

LOG OF BORING
Project: 4953-12-0171 Figure: A-1.1b

BORING 1 (Continued)

DATE DRILLED: February 14, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 238 **

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	DESCRIPTION
							Becomes wet, yellowish brown, some coarse, more iron oxide stains, more gravel
155							
	85		20.6	100	83		Becomes gray and reddish brown, more iron oxide stains, some silt
150							
	90		21.5	102	93		Becomes olive brown
145							(Sample not collected due to borehole caving) END OF BORING AT 94 FEET.
	95						
140							
	100						
135							
	105						
130							
	110						
125							
	115						
120							
	120						

NOTES:

Groundwater measured at 77 feet at completion of drilling. Water seepage encountered between 73 to 74 feet.
Hand augered upper 5 feet due to utilities. Borehole backfilled with cement bentonite from bottom up using tremie pipe.

"N" Value Standard Penetration Test: Number of blows required to drive the SPT sampler 18 inches using a 140 pound automatic hammer falling 30 inches.

*Number of blows required to drive the Crandall Sampler 12 inches using a 140 pound automatic hammer falling 30 inches.

** Elevation based on topographic survey map dated 4/13/12 provided by Los Angeles County Department of Public Works.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Field Tech: AR
Prepared By: WL
Checked By: LT/PE 3/12/12

B12SOIL_CRANDALL (NO DECIMAL) L:\70131 GEOTECH\GINTW\LIBRARY MACTEC FEB11.GLB P:\4953 GEOTECH\2012-PROJ\120171 LACDPW STONEVIEW\3.2 ALL FIELD NOTES\120171_(BORING NO 1-6).GPJ 4/25/12

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

BORING 2

DATE DRILLED: February 13, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 238 **

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.		Description
							SM	FILL - SILTY SAND - moist, medium brown, fine grained
								Becomes light brown
235								Becomes dark brown, trace gravel
	5							Thick layer of clayey sand, moist, dark gray, trace organic smell
			15.7	111	33	⊠		Becomes light to medium brown, fine to medium sand
230								Becomes dark gray and green, trace gravel
			20.4	100	23	⊠		
	10							
			9.4	118	54	⊠		
225								
	15		7.3	116	18	⊠		Medium grained, some coarse, trace gravel
							ML	**SAN PEDRO FORMATION** SILT - very stiff, moist, light yellowish brown, trace sand, fine to medium sand
220			11.7	83	39	⊠		
	20							
			20.9	94	40	⊠		Becomes light gray
215								
	25		23.5	99	45	⊠		Becomes light yellowish brown, trace iron oxide stains
210							SM	SILTY SAND - dense, moist, gray, fine grained
	30		12.7	100	52	⊠		
								Becomes light brown and gray
205								
	35		17.8	99	67	⊠		Becomes light yellowish brown
200							SP	POORLY GRADED SAND - moist, dark brown, fine grained
	40		3.6	95	61	⊠		

(CONTINUED ON FOLLOWING FIGURE)

Field Tech: AR
Prepared By: WL
Checked By: LT/PE 3/12/12

Ohr Eliyahu Academy Campus
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Culver City, California

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LOG OF BORING

Project: 4953-12-0171 Figure: A-1.2a

BORING 2 (Continued)

DATE DRILLED: February 13, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 238 **

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	USCS	DESCRIPTION
195								
	45		6.9	94	59	⊠		Becomes light gray, fine to medium grained, slightly coarser
190								
	50		3.2	103	65	⊠		
185							SW	WELL GRADED SAND - very dense, moist, light brown and gray, medium to coarse grained, some fines, trace ¼-inch gravel
	55		4.8	105	83	⊠		
180								More gravel
	60		2.7	103	92	⊠		Becomes fine to coarse grained
175							SP	POORLY GRADED SAND - moist, light brownish gray, fine to medium grained, trace iron oxide stains
	65		5.0	99	88	⊠	SM	SILTY SAND - dense, moist, dark brown, fine grained
170								
	70		5.9	103	55	⊠		
165								
	75		19.0	100	74	⊠	SP	POORLY GRADED SAND - dense, wet, light brown, fine to medium grained
160								▽
	80		25.5	96	39	⊠		

B12SOIL_CRANDALL (NO DECIMAL) L:\70131 GEOTECH\GINTW\LIBRARY MACTEC FEB11.GLB P:\4953 GEOTECH\2012-PROJ\120171 LACDPW STONEVIEW\3.2 ALL FIELD NOTES\120171_(BORING NO 1-6).GPJ 4/25/12

(CONTINUED ON FOLLOWING FIGURE)

Field Tech: AR
Prepared By: WL
Checked By: LT/PE 3/12/12

BORING 2 (Continued)

DATE DRILLED: February 13, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 238 **

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	DESCRIPTION
							Becomes medium dense
155							
	85	62	-	-		⊠	
150							
	90						END OF BORING AT 90 FEET DUE TO HEAVING OF SANDY SOILS.
145							
	95						
140							
	100						
135							
	105						
130							
	110						
125							
	115						
120							
	120						

NOTES:

Groundwater measured at 78 feet at completion of drilling.
Hand augered upper 5 feet due to utilities. Borehole backfilled with cement bentonite from bottom up using tremie pipe.

"N" Value Standard Penetration Test: Number of blows required to drive the SPT sampler 18 inches using a 140 pound automatic hammer falling 30 inches.

*Number of blows required to drive the Crandall Sampler 12 inches using a 140 pound automatic hammer falling 30 inches

** Elevation based on topographic survey map dated 4/13/12 provided by Los Angeles County Department of Public Works.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Field Tech: AR
Prepared By: WL
Checked By: LT/PE 3/12/12

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LOG OF BORING
Project: 4953-12-0171 Figure: A-1.2c

BORING 3

DATE DRILLED: February 14, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 237 **

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	USCS	DESCRIPTION
	0						SM	FILL - SILTY SAND - moist, brown and dark brown mottling, fine to medium grained
235								
	5		9.9	110	55		SC	FILL - CLAYEY SAND - moist, dark brown, fine sand
230			8.0	119	37		SM	FILL - SILTY SAND - moist, dark brown, fine to medium grained, petroleum odor
	10							
225			10.8	116	30		SP	FILL - POORLY GRADED SAND - moist, olive gray, fine to medium grained
	15		9.5	101	25			Slight petroleum odor
220			-	-	25		SM	FILL - SILTY SAND - moist, black and brown mottling, fine to medium grained, some clay
	20		20.6	93	22			Becomes brown, trace gravel
215			10.1	107	19		SM	**COLLUVIUM** SILTY SAND - medium dense, moist, brown, fine grained, some sandy clay, trace gravel
	25							
210			10.1	115	24			
	30		11.5	114	39		ML	**SAN PEDRO FORMATION** SANDY SILT - very stiff, moist, yellowish brown, fine sand
205			11.8	106	22			Becomes stiff, orangish brown
	35		-	-	28			Becomes olive brown, some iron oxide stains
200								
	40		12.0	83	26		SP-	POORLY GRADED SAND with SILT - medium dense, moist, orangish

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(CONTINUED ON FOLLOWING FIGURE)

Field Tech: AR
Prepared By: WL
Checked By: LT/PE 3/12/12

BORING 3 (Continued)

DATE DRILLED: February 14, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 237 **

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	USCS	DESCRIPTION
							SM	brown and brownish gray mottling, fine grained
195								
	45		3.8	101	40	☒	SP	POORLY GRADED SAND - medium dense, moist, gray, fine to medium grained
190								
	50		4.2	103	37	☒	SW	WELL GRADED SAND - medium dense, moist, gray, fine to coarse grained, some ¼-inch gravel
185								
	55		5.4	91	46	☒	SP	POORLY GRADED SAND - medium dense, moist, yellowish brown, fine to medium grained
180								
	60		5.0	109	38	☒		Becomes coarse
175								
	65		12.9	108	58	☒		Becomes dense, wet, orangish brown
170								
	70		3.4	107	64	☒		Becomes yellowish brown
165								
	75		15.3	104	53	☒		▽ Some ½-inch gravel
160								
	80		20.4	96	94/9"	☒		

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

(CONTINUED ON FOLLOWING FIGURE)

Field Tech: AR
Prepared By: WL
Checked By: LT/PE 3/12/12

B12SOIL_CRANDALL (NO DECIMAL) L:\70131 GEOTECH\GINTW\LIBRARY MACTEC FEB11.GLB P:\4953 GEOTECH\2012-PROJ\120171 LACDPW STONEVIEW\3.2 ALL FIELD NOTES\120171_(BORING NO 1-6).GPJ 4/25/12

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

BORING 3 (Continued)

DATE DRILLED: February 14, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 237 **

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	Description
							Becomes very dense, fine grained, some iron oxide stains
155							
	85		-	-	77		(No recovery) - very dense
150							
	90						END OF BORING AT 90 FEET.
145							
	95						
140							
	100						
135							
	105						
130							
	110						
125							
	115						
120							
	120						

NOTES:
Groundwater measured at 75 feet at completion of drilling.
Hand augered upper 5 feet due to utilities. Borehole backfilled with cement bentonite from bottom up using tremie pipe.

*Number of blows required to drive the Crandall Sampler 12 inches using a 140 pound automatic hammer falling 30 inches

** Elevation based on topographic survey map dated 4/13/12 provided by Los Angeles County Department of Public Works.

Field Tech: AR
Prepared By: WL
Checked By: LT/PE 3/12/12

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LOG OF BORING
Project: 4953-12-0171 Figure: A-1.3c

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

BORING 4

DATE DRILLED: February 16, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 237 **

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.		
							SM	FILL - SILTY SAND - moist, light brown, fine to medium grained
235								
	5							
			8.1	107	37			Becomes dark gray to black, trace clay
230								
		31	10.8	-				Some petroleum odor
	10							
225			9.3	115	33			Becomes light brown and gray, some coarse, trace clay
	15	34	9.7	-				More silt
220								
			8.2	107	17		SM	**COLLUVIUM** SILTY SAND - medium dense, moist, light brown and gray, fine to medium grained
	20							
		25	10.4	-				
215								
			12.2	112	19			Becomes dark reddish brown, trace clay
	25							
210		13	13.1	-				Becomes loose, more clay
							ML	SANDY SILT - very stiff, moist, dark brown
	30		13.9	112	24			
							SM	**SAN PEDRO FORMATION** SILTY SAND - medium dense, moist, light brown and gray, very fine to fine grained, alternating with layers of sandy silt
205								
	35	26	19.2	-				(44% Passing No. 200 Sieve)
200								
							SP	POORLY GRADED SAND - medium dense, moist, light brown and gray, fine to medium grained
	40		7.1	97	40			

(CONTINUED ON FOLLOWING FIGURE)

Field Tech: AR
Prepared By: JF
Checked By: LT/PE 3/12/12

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LOG OF BORING
Project: 4953-12-0171
Figure: A-1.4a

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

BORING 4 (Continued)

DATE DRILLED: February 16, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 237 **

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	USCS	DESCRIPTION
195							
	45	44	6.8	-			Becomes dense, light olive gray
190							
	50		6.7	91	42		Becomes light brown and gray, some coarse, trace ¼-inch gravel
185							
	55	51	6.8	-			Becomes very dense
180							
	60		5.5	108	79/9"		Becomes light olive gray
						SW	WELL GRADED SAND - moist, light brown and gray, fine to medium grained, some coarse, trace ¼-inch gravel, alternating with layers of poorly graded sand
175							
						SP	POORLY GRADED SAND - very dense, moist, light gray, fine to medium grained
	65	93/10"	5.4	-			
170							
	70		9.9	100	80/10"		
165							
	75	58	24.6	-			Becomes dark brown, wet
160							
	80		23.0	101	90/10"		

(CONTINUED ON FOLLOWING FIGURE)

Field Tech: AR
Prepared By: JF
Checked By: LT/PE 3/12/12

BORING 4 (Continued)

DATE DRILLED: February 16, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 237 **

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	DESCRIPTION
							Becomes olive brown, trace iron oxide stains
155							
	85	75/9"	24.9	-			
150							
	90		28.1	92	79		
145							
							(Sample not collected due to borehole caving) END OF BORING AT 94 FEET.
	95						
140							
	100						
135							
	105						
130							
	110						
125							
	115						
120							
	120						

NOTES:

Groundwater measured at 74 feet at completion of drilling.
Hand augered upper 5 feet due to utilities. Borehole backfilled with cement bentonite from bottom up using tremie pipe.

"N" Value Standard Penetration Test: Number of blows required to drive the SPT sampler 18 inches using a 140 pound automatic hammer falling 30 inches.

*Number of blows required to drive the Crandall Sampler 12 inches using a 140 pound automatic hammer falling 30 inches

** Elevation based on topographic survey map dated 4/13/12 provided by Los Angeles County Department of Public Works.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Field Tech: AR
Prepared By: JF
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LOG OF BORING
Project: 4953-12-0171 Figure: A-1.4c

B12SOIL_CRANDALL (NO DECIMAL) L:\70131 GEOTECH\GINTW\LIBRARY MACTEC FEB11.GLB P:\4953 GEOTECH\2012-PROJ\120171 LACDPW STONEVIEW\3.2 ALL FIELD NOTES\120171_(BORING NO 1-6).GPJ 4/25/12

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

BORING 5

DATE DRILLED: February 15, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 237 **

Elevation scale (ft): 235, 230, 225, 220, 215, 210, 205, 200
Depth scale (ft): 5, 10, 15, 20, 25, 30, 35, 40

"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	USCS	DESCRIPTION
					SM	FILL - SILTY SAND - moist, brown, fine to medium grained
						More silt, dark gray
	6.6	120	44		CL	FILL - SANDY LEAN CLAY - moist, dark brown, fine sand
	11.1	118	35		SM	FILL - SILTY SAND - moist, dark greenish gray, fine to medium grained, heavy petroleum odor
	14.4	113	28			Becomes dark olive brown and gray mottling, some clay
	8.9	117	44			Becomes dark gray, petroleum odor
	14.3	96	36		SM	**SAN PEDRO FORMATION** SILTY SAND - medium dense, moist, orangish brown, fine to medium grained,
	7.8	91	18		ML	SANDY SILT - stiff, moist, yellowish brown, fine grained, some medium, some rootlets
	4.8	99	19			
	7.8	93	24			
	8.1	109	30		SM	SILTY SAND - medium dense, moist, dark brown, fine grained, some medium
	8.2	106	29			Becomes yellowish brown, fine to medium grained
	6.6	111	40			Becomes brown, fine to coarse grained, some 2-inch gravel
	12.3	111	18			Becomes reddish brown, fine to medium grained

(CONTINUED ON FOLLOWING FIGURE)

Field Tech: AR
Prepared By: WL
Checked By: LT/PE 3/12/12

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LOG OF BORING
Project: 4953-12-0171 Figure: A-1.5a

BORING 5 (Continued)

DATE DRILLED: February 15, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 237 **

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	USCS	DESCRIPTION
							SM	SILTY SAND - medium dense, moist, brown, fine to medium grained, some coarse, trace ¼-inch gravel
195			11.9	109	27	⊠		
190	45		10.5	108	37	⊠	ML	SANDY SILT - very stiff, moist, light brown, fine sand, some medium
185	50		19.0	94	26	⊠		
180	55							
	60		4.6	109	59	⊠	SP	POORLY GRADED SAND - dense, moist, grayish brown, fine to medium grained, some iron oxide stains
175								Becomes olive gray
	65		5.8	104	55	⊠		
170								
	70		10.9	108	62	⊠		Becomes wet, more iron oxide stains
165								▽
	75		24.7	99	82/10"	⊠		Becomes very dense, trace ¼-inch gravel
160								
	80		19.2	103	100/9"	⊠		

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(CONTINUED ON FOLLOWING FIGURE)

Field Tech: AR
Prepared By: WL
Checked By: LT/PE 3/12/12

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LOG OF BORING

Project: 4953-12-0171 Figure: A-1.5b

BORING 5 (Continued)

DATE DRILLED: February 15, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 237 **

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	DESCRIPTION
							Becomes dark olive brown
	85		20.0	104	70	☒	Becomes dense
	90		17.9	104	85/10"	☒	Becomes very dense
	95		18.8	100	92/9"	☒	
	100						(Sample not collected due to borehole caving) END OF BORING AT 100 FEET.

Elevation scale: 155, 150, 145, 140, 135, 130, 125, 120
Depth scale: 85, 90, 95, 100, 105, 110, 115, 120

NOTES:
Groundwater measured at 74 feet 10 minutes after completion of drilling. Hand augered upper 5 feet due to utilities. Borehole backfilled with cement bentonite from bottom up using tremie pipe.

*Number of blows required to drive the Crandall Sampler 12 inches using a 140 pound automatic hammer falling 30 inches

** Elevation based on topographic survey map dated 4/13/12 provided by Los Angeles County Department of Public Works.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

B12SOIL_CRANDALL (NO DECIMAL) L:\70131 GEOTECH\GINTW\LIBRARY MACTEC FEB11.GLB P:\4953 GEOTECH\2012-PROJ\120171 LACDPW STONEVIEW\3.2 ALL FIELD NOTES\120171_(BORING NO 1-6).GPJ 4/25/12

Field Tech: AR
Prepared By: WL
Checked By: LT/PE 3/12/12

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

BORING 6

DATE DRILLED: February 17, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 237 **

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	USCS	DESCRIPTION
								5-inch thick Asphalt Concrete
235							SM	FILL - SILTY SAND - moist, brown, fine to medium grained
	5		4.2	106	36			Becomes dark brown to black, more silt
230		67	5.6	-				Becomes brown, trace 3-inch gravel
	10						SP	FILL - POORLY GRADED SAND - moist, brown, fine to medium grained, some coarse, trace gravel
225			3.0	109	42			
	15	24	6.6	-				Becomes dark brown
220			2.4	101	24		SM	FILL - SILTY SAND - moist, dark brown, fine to medium grained
	20	14	5.9	-			SM	**COLLUVIUM** SILTY SAND - medium dense, moist, dark brown, fine to medium grained, trace clay
215			4.3	114	43		SC	CLAYEY SAND - medium dense, moist, grayish brown, fine to medium grained, trace ¼-inch gravel
	25						SM	SILTY SAND - medium dense, moist, light brown, fine grained
210		25	4.3	-			SP	POORLY GRADED SAND - medium dense, moist, light brown and gray, fine to medium grained
	30		6.2	103	26		SM	SILTY SAND - medium dense, moist, light brown, fine to medium grained
205	35	22	7.8	-				(30% Passing No. 200 Sieve), more silt
200							ML	SANDY SILT - very stiff, moist, reddish brown, fine to medium sand, trace clay
	40		9.4	112	28			

(CONTINUED ON FOLLOWING FIGURE)

Field Tech: AR
Prepared By: JF
Checked By: LT/PE 3/12/12

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LOG OF BORING
Project: 4953-12-0171 Figure: A-1.6a

BORING 6 (Continued)

DATE DRILLED: February 17, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 237 **

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	USCS	DESCRIPTION
195						SM	**SAN PEDRO FORMATION** SILTY SAND - medium dense, moist, light olive gray, fine to medium grained
	45	15	10.1	-			
190							
	50		17.2	96	16		
185						SP	POORLY GRADED SAND - very dense, moist, light gray, fine to medium grained, some coarse
	55	64	4.9	-			
180						SW	WELL GRADED SAND - dense, moist, light brown, fine to coarse grained, trace ¼-inch gravel, trace iron oxide stains, alternating with layers of poorly graded sand
	60		5.3	97	76/10"		
175							
	65	91/10"	6.1	-		SP	POORLY GRADED SAND - very dense, moist, light olive gray, fine to medium grained, some coarse, trace iron oxide stains
170							
	70		22.9	95	73		(Sample not recovered)
165							
	75	65	25.4	-			Becomes light gray, wet
160							
	80		26.6	95	90/9"	SW	WELL GRADED SAND - very dense, wet, brownish gray, fine to

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

B12SOIL_CRANDALL (NO DECIMAL) L:\70131 GEOTECH\GINTW\LIBRARY MACTEC FEB11.GLB P:\4953 GEOTECH\2012-PROJ\120171 LACDPW STONEVIEW\3.2 ALL FIELD NOTES\120171_(BORING NO 1-6).GPJ 4/25/12

(CONTINUED ON FOLLOWING FIGURE)

Field Tech: AR
Prepared By: JF
Checked By: LT/PE 3/12/12

Ohr Eliyahu Academy Campus
5950 Stoneview Drive
Culver City, California

amec

LOG OF BORING
Project: 4953-12-0171 Figure: A-1.6b

BORING 6 (Continued)

DATE DRILLED: February 17, 2012
EQUIPMENT USED: CME85 - Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 237 **

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.		DESCRIPTION
								coarse grained, trace gravel, alternating with layers of poorly graded sand
155								
	85	78/11"	27.8	-			SP	POORLY GRADED SAND - very dense, wet, gray, fine to medium grained, some coarse, trace iron oxide stains
150								
	90		19.2	102	75			Becomes brown and gray
145								
								(Sample not collected due to borehole caving)
								END OF BORING AT 94 FEET.
	95							
140								
	100							
135								
	105							
130								
	110							
125								
	115							
120								
	120							

NOTES:

Groundwater measured at 72½ feet 15 minutes after completion of drilling.
Hand augered upper 5 feet due to utilities. Borehole backfilled with cement bentonite from bottom up using tremie pipe.

"N" Value Standard Penetration Test: Number of blows required to drive the SPT sampler 18 inches using a 140 pound automatic hammer falling 30 inches.

*Number of blows required to drive the Crandall Sampler 12 inches using a 140 pound automatic hammer falling 30 inches

** Elevation based on topographic survey map dated 4/13/12 provided by Los Angeles County Department of Public Works.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Field Tech: AR
Prepared By: JF
Checked By: LT/PE 3/12/12

KEY TO SYMBOLS AND DESCRIPTIONS

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS (More than 50% of material is LARGER than No. 200 sieve size)	GRAVELS (More than 50% of coarse fraction is LARGER than the No. 4 sieve size)	CLEAN GRAVELS (Little or no fines)	GW	Well graded gravels, gravel - sand mixtures, little or no fines.
			GP	Poorly graded gravels or grave - sand mixtures, little or no fines.
		GRAVELS WITH FINES (Appreciable amount of fines)	GM	Silty gravels, gravel - sand - silt mixtures.
			GC	Clayey gravels, gravel - sand - clay mixtures.
	SANDS (More than 50% of coarse fraction is SMALLER than the No. 4 Sieve Size)	CLEAN SANDS (Little or no fines)	SW	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES (Appreciable amount of fines)	SM	Silty sands, sand - silt mixtures
			SC	Clayey sands, sand - clay mixtures.
FINE GRAINED SOILS (More than 50% of material is SMALLER than No. 200 sieve size)	SILTS AND CLAYS (Liquid limit LESS than 50)		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts and with slight plasticity.
			CL	Inorganic lays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS (Liquid limit GREATER than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
			CH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			PT	Peat and other highly organic soils.

<u>BOUNDARY CLASSIFICATIONS:</u> Soils possessing characteristics of two groups are designated by combinations of group symbols.

SILT OR CLAY	SAND			GRAVEL		Cobbles	Boulders
	Fine	Medium	Coarse	Fine	Coarse		

No.200 No.40 No.10 No.4 3/4" 3" 12"

U.S. STANDARD SIEVE SIZE

<u>Reference:</u> The Unified Soil Classification System, Corps of Engineers, U.S. Army Technical Memorandum No. 3-357, Vol. 1, March, 1953 (Revised April, 1960)

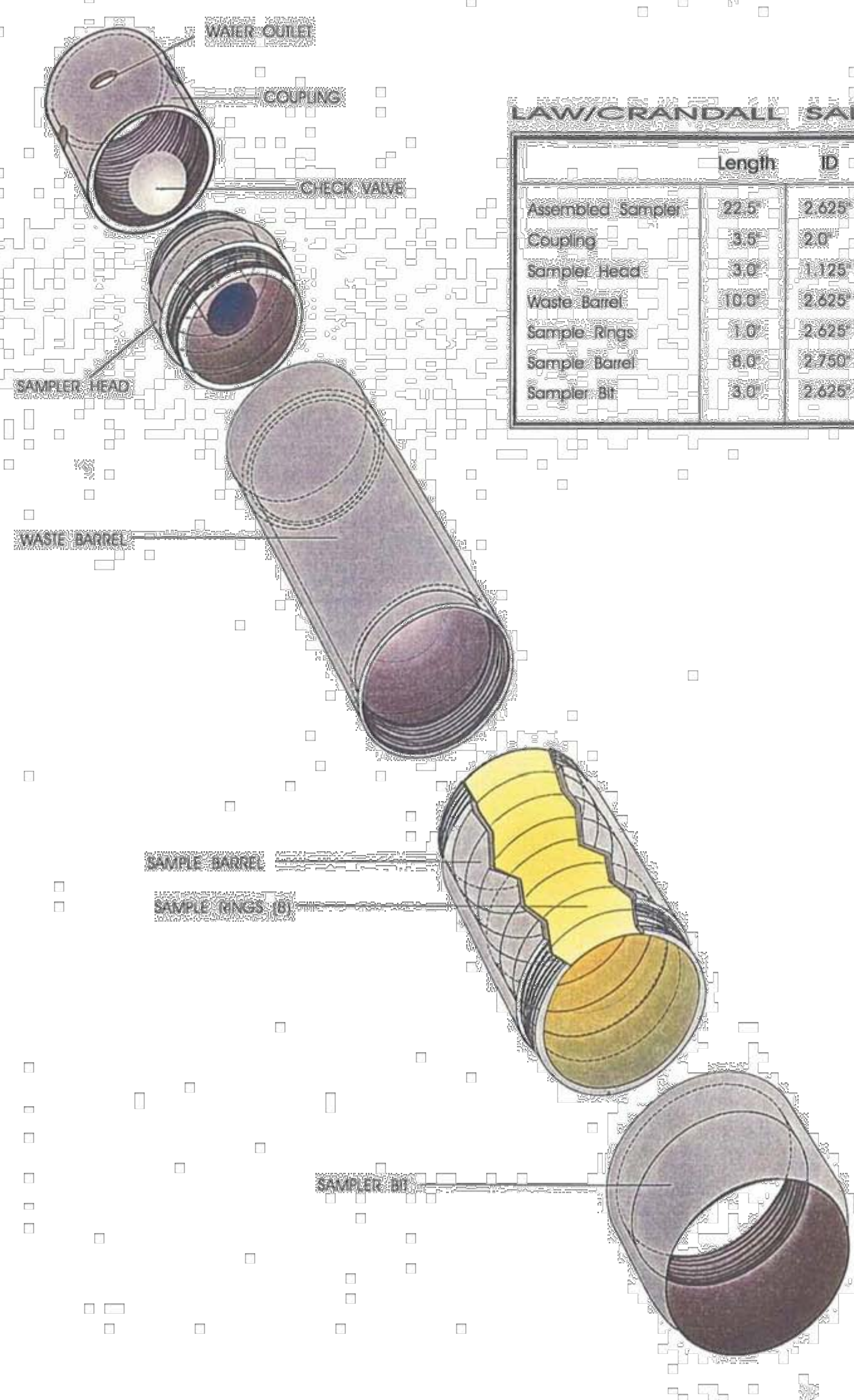
Undisturbed Sample	Auger Cuttings
Split Spoon Sample	Bulk Sample
Rock Core	Crandall Sampler
Dilatometer	Pressure Meter
Packer	No Recovery
Water Table at time of drilling	Water Table after drilling

Correlation of Penetration Resistance with Relative Density and Consistency

SAND & GRAVEL		SILT & CLAY	
No. of Blows	Relative Density	No. of Blows	Consistency
0 - 4	Very Loose	0 - 1	Very Soft
5 - 10	Loose	2 - 4	Soft
11 - 30	Medium Dense	5 - 8	Medium Stiff
31 - 50	Dense	9 - 15	Stiff
Over 50	Very Dense	16 - 30	Very Stiff
		Over 30	Hard

Figure A-2.1

LAW/CRANDALL SAMPLER



LAW/CRANDALL SAMPLER

	Length	ID	OD
Assembled Sampler	22.5"	2.625"	3.187"
Coupling	3.5"	2.0"	3.0"
Sampler Head	3.0"	1.125"	3.125"
Waste Barrel	10.0"	2.625"	3.125"
Sample Rings	1.0"	2.625"	2.750"
Sample Barrel	8.0"	2.750"	3.125"
Sampler Bit	3.0"	2.625"	3.187"

amec

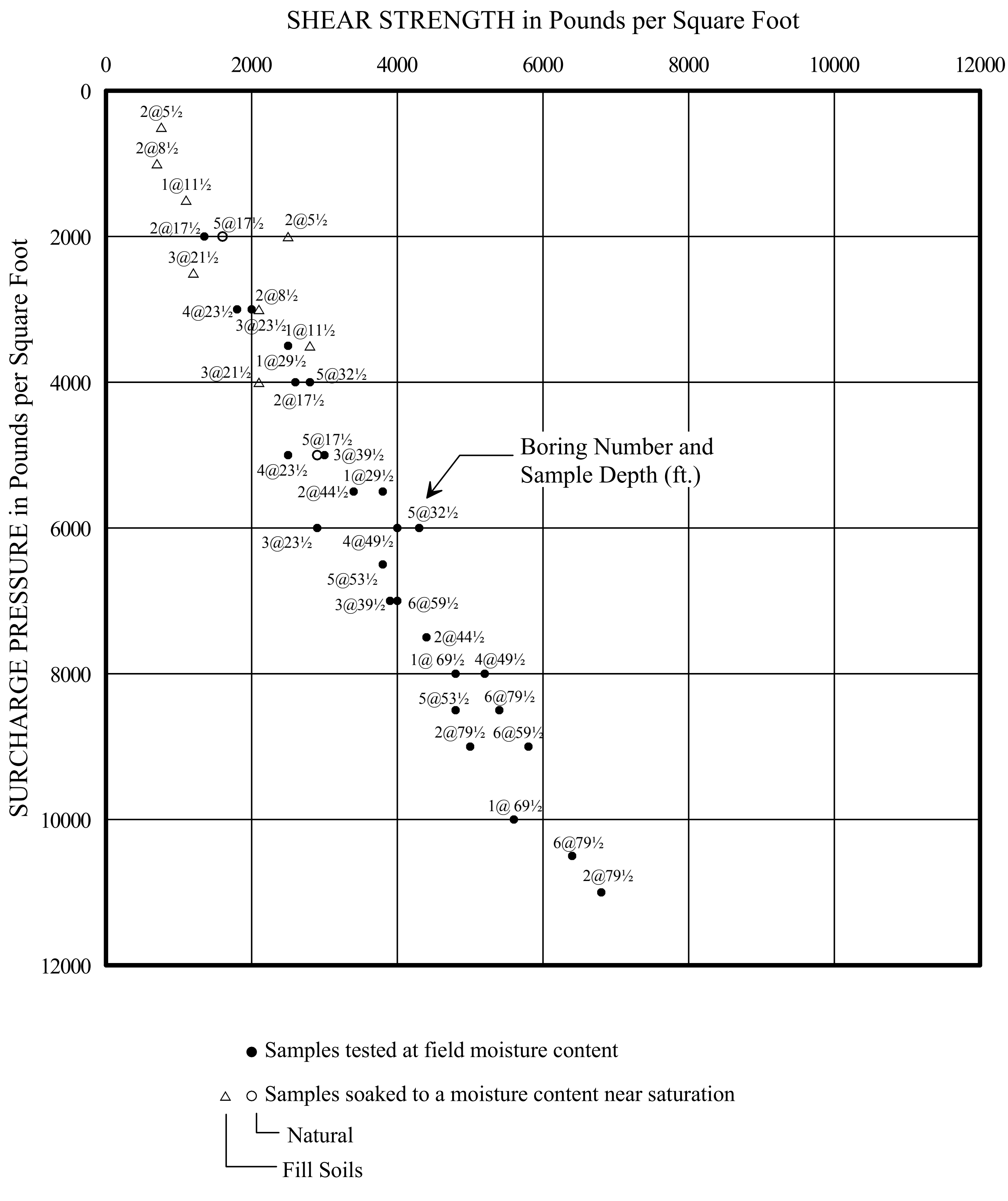
AMEC
Environment & Infrastructure
5628 E. Slauson Avenue, Los Angeles, California 90040
Phone (323) 889-5300 Fax (323) 889-5398

JOB:	4953-12-0171
LAT:	
SCALE:	NTS
DRAWN:	V. Nguyen
CHKD:	H. Ponnaboyina
PM:	P. Elliott
DATE:	4/25/2012

CRANDALL SAMPLER

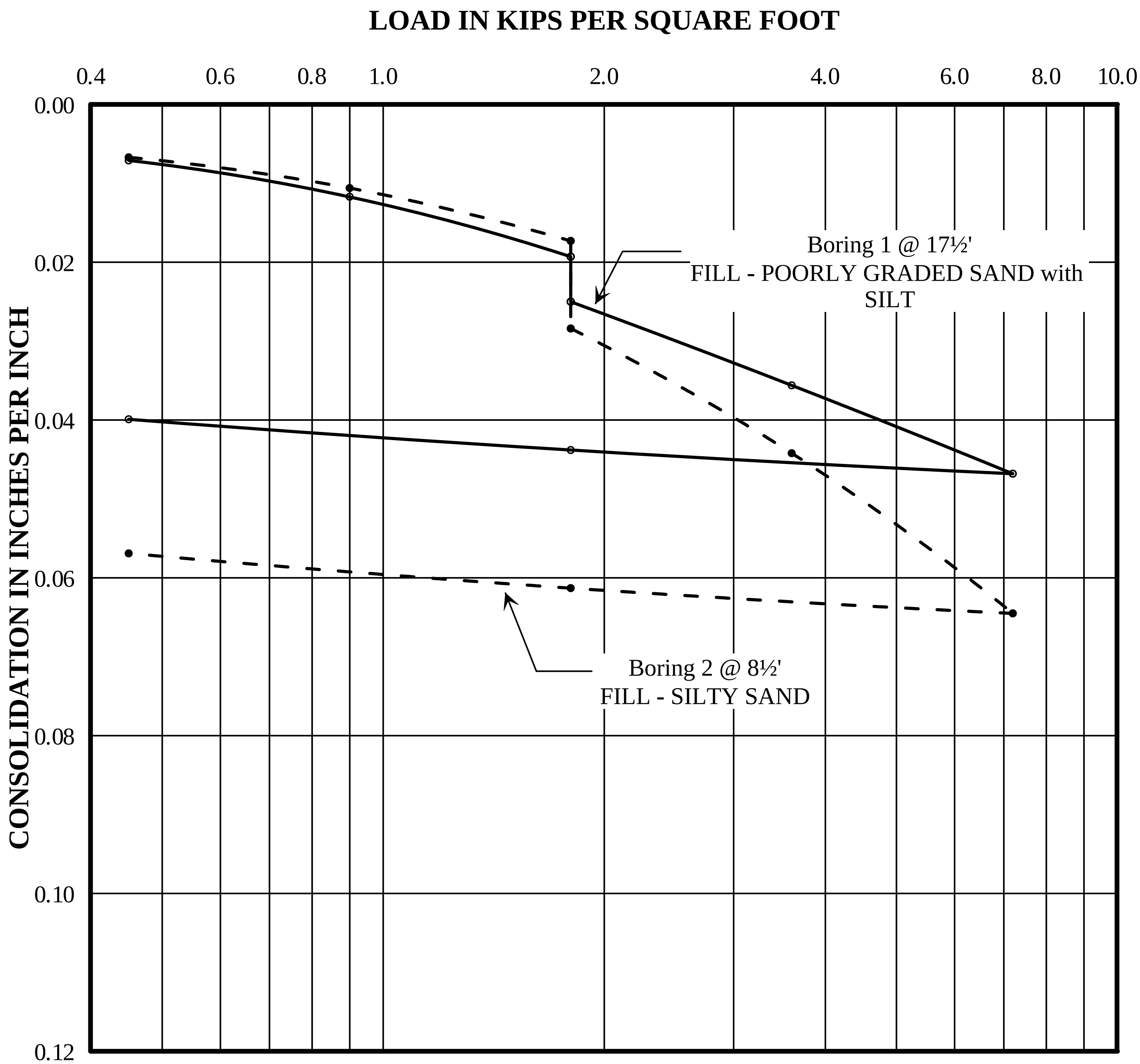
Ohr Eliyahu Academy Campus
5950 Stoneview Drive
Culver City, California

FIGURE NO.
A-2.2



Prepared/Date: LH 3/5/12
Checked/Date: LT 3/5/12

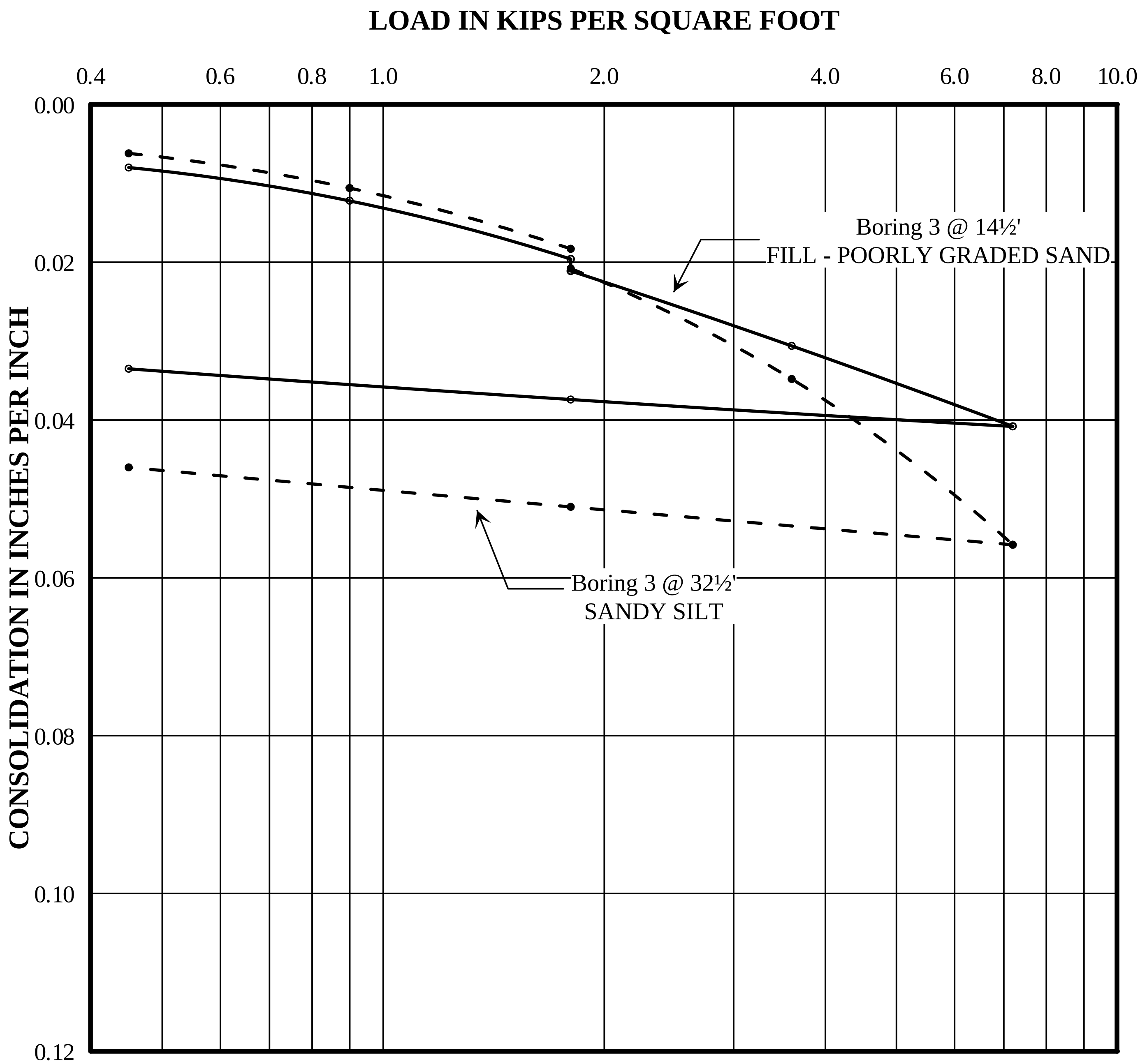
Ohr Eliyahu Academy Campus 5950 Stoneview Drive Culver City, California	amec	DIRECT SHEAR TEST DATA Project No. 4953-12-0171 Figure A-3



Note: Water added to samples after consolidation under a load of 1.8 kips per square foot.

Prepared/Date: LH 3/7/12
Checked/Date: LT 3/9/12

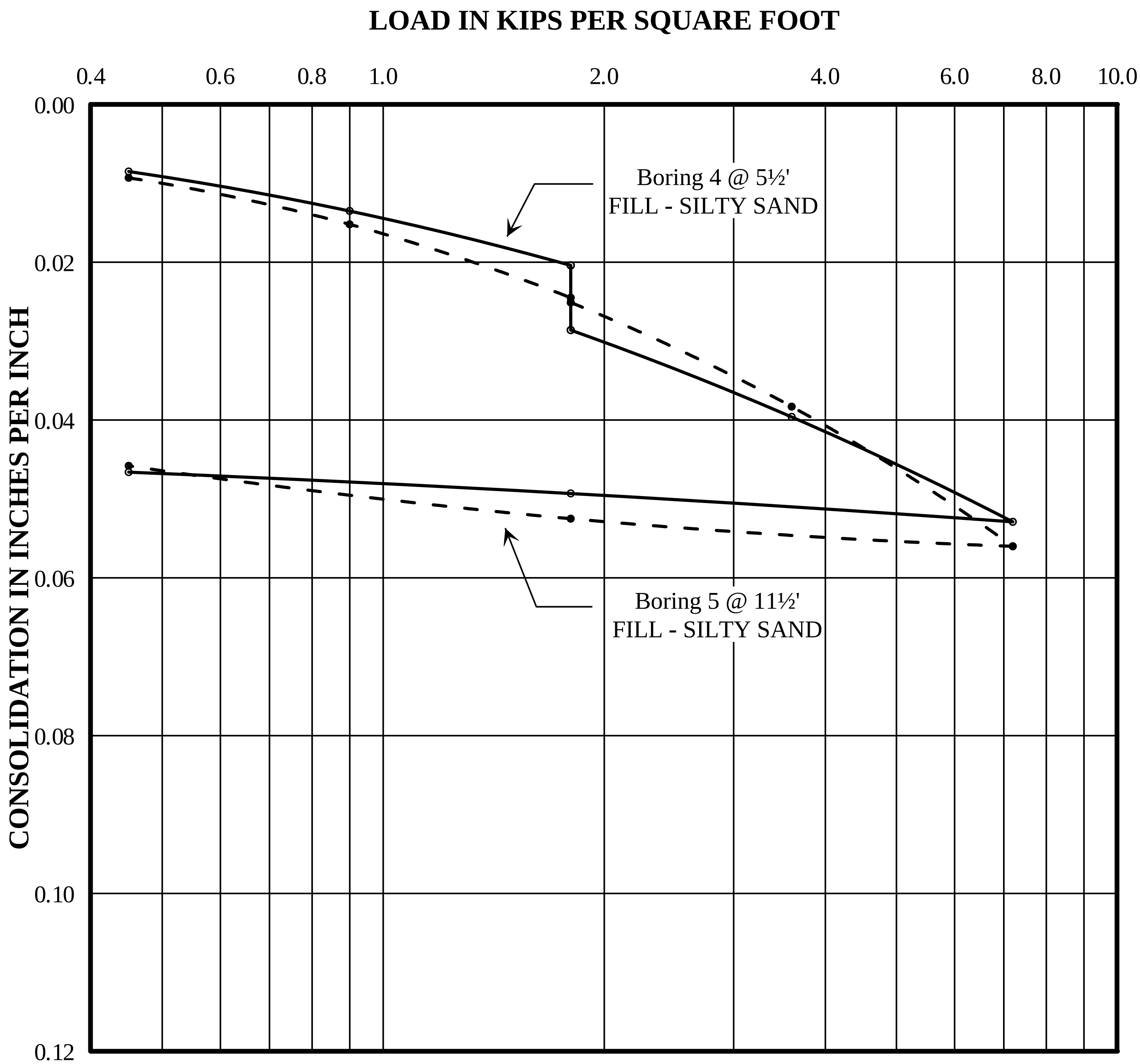
Ohr Eliyahu Academy Campus 5950 Stoneview Drive Culver City, California	amec	CONSOLIDATION TEST DATA Project 4954-12-0171 Figure A-4.1



Note: Water added to samples after consolidation under a load of 1.8 kips per square foot.

Prepared/Date: LH 3/7/12
Checked/Date: LT 3/9/12

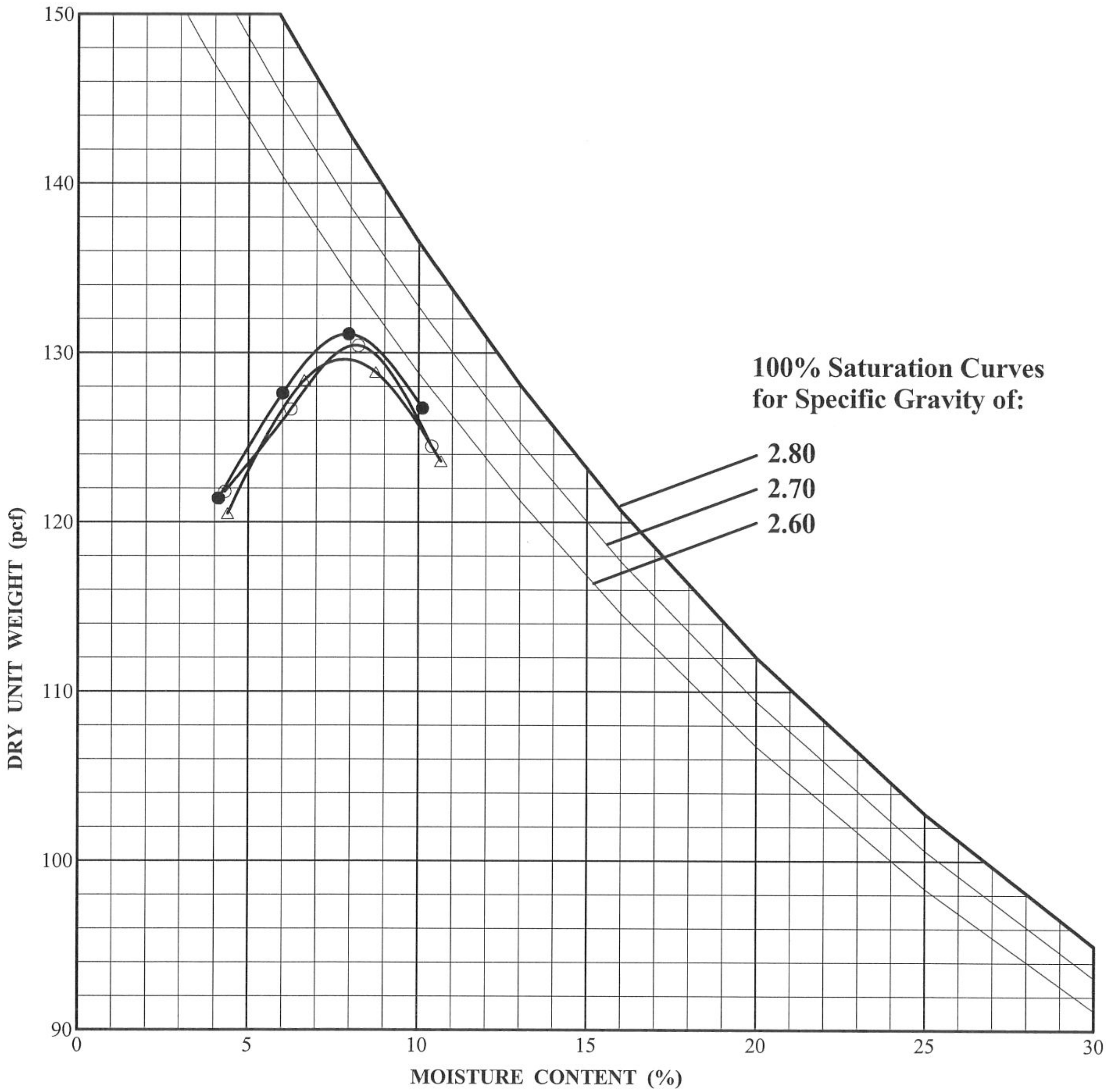
Ohr Eliyahu Academy Campus 5950 Stoneview Drive Culver City, California	amec	CONSOLIDATION TEST DATA Project 4954-12-0171 Figure A-4.2



Note: Water added to samples after consolidation under a load of 1.8 kips per square foot.

Prepared/Date: LH 3/7/12
Checked/Date: LT 3/9/12

Ohr Eliyahu Academy Campus 5950 Stoneview Drive Culver City, California	amec	CONSOLIDATION TEST DATA Project 4954-12-0171 Figure A-4.3



SYMBOL	BORING	DEPTH (ft)	CLASSIFICATION	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DRY UNIT WEIGHT (pcf)
○	1	0-5	FILL - SILTY SAND (SM)	8.1	130.5
●	5	0-5	FILL - SILTY SAND (SM)	8	131
△	6	1-6	FILL - SILTY SAND (SM)	8	129

Laboratory Test Method: ASTM D 1557

Prepared/Date: JF 3/9/12
Checked/Date: LT 3/9/12

MACTEC LA COMPACTION 3 TESTS L:\70131 GEOTECH\GINTW\LIBRARY MACTEC JUNE2011.GLB
P:\4953 GEOTECH\2012-PROJ\120171 LACDPW STONEVIEW\3.2 ALL FIELD NOTES\120171 (BORING NO 1-6).GPJ 3/12/12

Ohr Eliyahu Academy Campus 5950 Stoneview Drive Culver City, California	amec	COMPACTION TEST RESULTS Project No.: 4953-12-0171 Figure: A-5

APPENDIX B

BORING LOGS – PRIOR INVESTIGATION

(OUR JOB NO. 4953-10-1091)

BORING B-8

DATE DRILLED: 8/12/2010
EQUIPMENT USED: Direct Push
HOLE DIAMETER (in.): 1.5
ELEVATION: **

ELEVATION (ft)	DEPTH (ft)	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	USCS	DESCRIPTION
	0			B-8-1'			Asphalt Concrete
						SP-SM	SAND with SILT (SP-SM) - slightly moist, brown (10 YR 4/3), fine to medium grained
	5			B-8-5'		SP-SC	SAND with CLAY (SP-SC) - moist, very dark grayish brown (10 YR 3/2)
	10			B-8-10'			SAND with CLAY (SP-SC) - moist, very dark grayish brown (10 YR 3/2)
							END OF BORING AT 10 FEET
							NOTE: Water not encountered

Depth scale: 5, 10, 15, 20, 25, 30, 35, 40

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Field Tech: RM
Prepared By: LM
Checked By: [signature]

BORING B-10

DATE DRILLED: 8/12/2010
EQUIPMENT USED: Direct Push
HOLE DIAMETER (in.): 1.5
ELEVATION: **

ELEVATION (ft)	DEPTH (ft)	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	USCS	DESCRIPTION
	0						2-inch thick of Asphalt Concrete
				B-10-1'	■	SM	SILTY SAND (SM) - slightly moist, dark grayish brown (10 YR 4/2), fine to medium grained
	5			B-10-5'	■	SP	SAND (SP) - moist, dark brown (10 YR 3/3), fine to medium grained
	10			B-10-10	■		SAND (SP) - moist, dark brown (10 YR 3/3), fine to medium grained
							END OF BORING AT 10 FEET
							NOTE: Water not encountered
	15						
	20						
	25						
	30						
	35						
	40						

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Field Tech: RM
Prepared By: LM
Checked By: [signature]

BORING B-14

DATE DRILLED: 8/16/2010
EQUIPMENT USED: Direct Push
HOLE DIAMETER (in.): 1.5
ELEVATION: **

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

ELEVATION (ft)	DEPTH (ft)	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	USCS	DESCRIPTION
	0						2-inch thick Asphalt Concrete
				B-14-½'		SM	SILTY SAND (SM) - moist, loose, very dark gray (10 YR 3/1)
	5			B-14-5'			SILTY SAND (SM) - some Clay, moist, loose, very dark gray (10 YR 3/1)
	10			B-14-10			SILTY SAND (SM) - slightly moist, loose, brown (10 YR 4/3), trace pebbles
							Installed Vapor Probes at 5 feet and 10 feet
							END OF BORING AT 10 FEET
							NOTES: Water not encountered
	15						
	20						
	25						
	30						
	35						
	40						

Field Tech: RM
Prepared By: LM
Checked By: [signature]

B11SOIL_CRANDALL 4953-10-1091 LOGS.GPJ LAW_CRAN.GDT 9/29/10

LACDPW 5950 Stoneview	MACTEC	LOG OF BORING Project: 4953-10-1091 Figure: A-13c

BORING B-15

DATE DRILLED: 8/11/2010
EQUIPMENT USED: Direct Push
HOLE DIAMETER (in.): 1.5
ELEVATION: **

ELEVATION (ft)	DEPTH (ft)	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	USCS	DESCRIPTION
	0						2-inch thick Asphalt Concrete
				B-15-½'		SM	SANDY SILT (SM) - slightly moist, dark brown (10 YR 3/3), very fine grained
	5			B-15-5'			SANDY SILT (SM) - slightly moist, dark brown (10 YR 3/3), very fine grained
						SP	
	10			B-15-10'			SAND (SP) - slightly moist, light yellowish brown (10 YR 6/4), very fine grained
	15			B-15-15'			SAND (SP) - slightly moist, light yellowish brown (10 YR 6/4), very fine grained
	20			B-15-20'			SAND (SP) - slightly moist, light yellowish brown (10 YR 6/4), very fine grained Installed Vapor Probes at 5 feet and 20 feet END OF BORING AT 20 FEET NOTES: Water not encountered
	25						
	30						
	35						
	40						

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Field Tech: RM
Prepared By: LM
Checked By: [signature]

BORING B-16

DATE DRILLED: 8/12/2010
EQUIPMENT USED: Direct Push
HOLE DIAMETER (in.): 1.5
ELEVATION: **

ELEVATION (ft)	DEPTH (ft)	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	USCS	DESCRIPTION
	0						Grass
				B-16-1'		SM	SAND with SILT (SP-SM) - dry, brown (10 YR 5/3), fine grained, some hairline roots from grass
	5			B-16-5'			SILTY SAND (SM) - slightly moist, dark gray (10 YR 4/1), fine to coarse grained sand
	10			B-16-10'			SILTY SAND (SM) - moist, dark gray (10 YR 4/1), fine grained
							END OF BORING AT 10 FEET
							NOTES: Water not encountered
	15						
	20						
	25						
	30						
	35						
	40						

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

B11SOIL_CRANDALL 4953-10-1091 LOGS.GPJ LAW_CRAN.GDT 9/29/10

Field Tech: RM
Prepared By: LM
Checked By:

LACDPW 5950 Stoneview	MACTEC	LOG OF BORING Project: 4953-10-1091 Figure: A-15c

BORING B-17

DATE DRILLED: 8/11/2010
EQUIPMENT USED: Direct Push
HOLE DIAMETER (in.): 1.5
ELEVATION: **

ELEVATION (ft)	DEPTH (ft)	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	USCS	DESCRIPTION
	0			B-17-1'		SP-SM	Grass SILTY SAND (SP-SM) - slightly moist, brown (10 YR 5/3), fine to medium grained, some coarser grains
	5			B-17-5'		SM	SILTY SAND (SM), slightly moist, brown (10 YR 5/3), fine to medium grained, some coarse grains
	10			B-17-10		SP-SC	SAND with some CLAY (SP-SC) - moist, dark grayish brown (10 YR 4/2), fine to medium grained
	15			B-17-15		SP	SAND (SP) - moist, yellowish brown (10 YR 5/4), fine grained
	20			B-17-20			SAND (SP) - moist, yellowish brown (10 YR 5/4), fine grained END OF BORING AT 20 FEET
	25						
	30						
	35						
	40						

NOTES:
Water not encountered

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Field Tech: RM
Prepared By: LM
Checked By: [signature]

BORING B-18

DATE DRILLED: 8/12/2010
EQUIPMENT USED: Direct Push
HOLE DIAMETER (in.): 1.5
ELEVATION: **

ELEVATION (ft)	DEPTH (ft)	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	USCS	DESCRIPTION
							Grass
				B-18-1'		ML	SANDY SILT (ML) - dry, soft, dark grayish brown (10 YR 4/2), hairline rootlets from grass, some pebbles
	5			B-18-5'			SANDY SILT (ML) - slightly moist, firm, dark grayish brown (10 YR 4/2)
				B-18-10		SM	SILTY SAND (SM) - some Clay, moist, firm, very dark gray (10 YR 3/1)
	10						END OF BORING AT 10 FEET
	15						
	20						
	25						
	30						
	35						
	40						

NOTES:
Water not encountered

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Field Tech: RM
Prepared By: LM
Checked By: [signature]

BORING B-19

DATE DRILLED: 8/12/2010
EQUIPMENT USED: Direct Push
HOLE DIAMETER (in.): 1.5
ELEVATION: **

ELEVATION (ft)	DEPTH (ft)	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	USCS	DESCRIPTION
							Grass
				B-19-1'	■	ML	SANDY SILT (ML) - dry, dark gray (10 YR 4/1), hairline rootlets from grass
	5			B-19-5'	■		SANDY SILT (ML) - dry, dark grayish brown (10 YR 4/2)
	10			B-19-10	■	SM	SILTY SAND (SM) - moist, very dark grayish brown (10 YR 3/2), fine to medium grained
							END OF BORING AT 10 FEET
							NOTE: Water not encountered
	15						
	20						
	25						
	30						
	35						
	40						

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Field Tech: RM
Prepared By: LM
Checked By:

BORING B-20

DATE DRILLED: 8/11/2010
EQUIPMENT USED: Direct Push
HOLE DIAMETER (in.): 1.5
ELEVATION: **

ELEVATION (ft)	DEPTH (ft)	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	USCS	DESCRIPTION
	0			B-20-1'			2-inch thick of Asphalt Concrete
						SM	SILTY SAND (SM) - slightly moist, dark grayish brown (10 YR 4/2), trace gravel fragments
	5			B-20-5'			SILTY SAND (SM) - slightly moist, dark grayish brown (10 YR 4/2), trace gravel
						SP	
	10			B-20-10			SAND (SP) - moist, yellowish brown (10 YR 5/4), fine grained
	15			B-20-15			SAND (SP) - moist, yellowish brown (10 YR 5/4), fine grained
	20			B-20-20			SAND (SP) - moist, yellowish brown (10 YR 5/4), fine grained
							Installed Vapor Probes at 5 feet and 20 feet
							END OF BORING AT 20 FEET
							NOTE: Water not encountered
	25						
	30						
	35						
	40						

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Field Tech: RM
Prepared By: LM
Checked By: [signature]

APPENDIX C

BORING LOGS AND LABORATORY TEST RESULTS

(PRIOR INVESTIGATION BY JACOBS ENGINEERING GROUP, INC.)

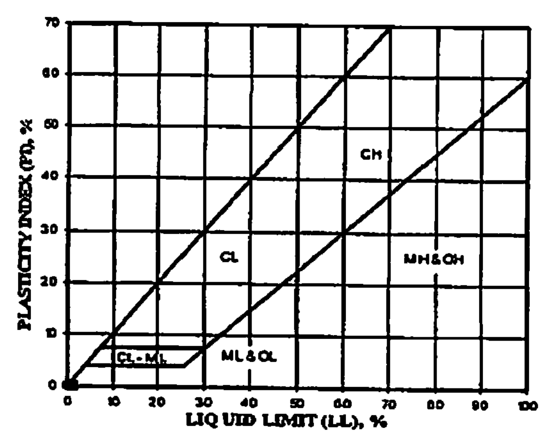
U.S.C.S. METHOD OF SOIL CLASSIFICATION

MAJOR DIVISIONS		SYMBOL	TYPICAL NAMES
COARSE-GRAINED SOILS (More than 1/2 of soil >No. 200 sieve size)	GRAVELS (More than 1/2 of coarse fraction > No. 4 sieve size)	GW	Well graded gravels or gravel-sand mixtures, little or no fines
		GP	Poorly graded gravels or gravel-sand mixtures, little or no fines
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS (More than 1/2 of coarse fraction <No. 4 sieve size)	SW	Well graded sands or gravelly sands, little or no fines
		SP	Poorly graded sands or gravelly sands, little or no fines
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (More than 1/2 of soil <No. 200 sieve size)	SILTS & CLAYS Liquid Limit <50	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean
		OL	Organic silts and organic silty clays of low plasticity
	SILTS & CLAYS Liquid Limit >50	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS		Pt	Peat and other highly organic soils

GRAIN SIZE CHART

CLASSIFICATION	RANGE OF GRAIN SIZE	
	U.S. Standard Sieve Size	Grain Size in Millimeters
BOULDERS	Above 12"	Above 305
COBBLES	12" to 3"	305 to 76.2
GRAVEL Coarse Fine	3" to No. 4 3" to 3/4" 3/4" to No. 4	76.2 to 4.76 76.2 to 19.1 19.1 to 4.76
SAND Coarse Medium Fine	No. 4 to No. 200 No. 4 to No. 10 No. 10 to No. 40 No. 40 to No. 200	4.76 to 0.075 4.76 to 2.00 2.00 to 0.420 0.420 to 0.075
SILT & CLAY	Below No. 200	Below 0.075

PLASTICITY CHART



Ninyo & Moore	U.S.C.S. METHOD OF SOIL CLASSIFICATION

BORING LOG EXPLANATION SHEET

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	
0								Bulk sample.
								Modified split-barrel drive sampler.
								No recovery with modified split-barrel drive sampler.
								Sample retained by others.
								Standard Penetration Test (SPT).
5								No recovery with a SPT.
			XX/XX					Shelby tube sample. Distance pushed in inches/length of sample recovered in inches.
								No recovery with Shelby tube sampler.
								Continuous Push Sample.
								Seepage.
10								Groundwater encountered during drilling.
								Groundwater measured after drilling.
							SM	ALLUVIUM: Solid line denotes unit change.
								Dashed line denotes material change.
								Attitudes: Strike/Dip b: Bedding c: Contact j: Joint f: Fracture F: Fault cs: Clay Seam s: Shear bss: Basal Slide Surface sf: Shear Fracture sz: Shear Zone sbs: Sheared Bedding Surface
15								
20								The total depth line is a solid line that is drawn at the bottom of the boring.

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BORING LOG

EXPLANATION OF BORING LOG SYMBOLS

PROJECT NO.	DATE	FIGURE
	Rev. 01/03	

DATE DRILLED: 10/13/06	BORING NO.: B-JE1	
GROUND ELEVATION: 230' ± (MSL)	SHEET 1 OF 3	
METHOD OF DRILLING: 8" Hollow-Stem Auger (C&C Drilling)		
DRIVE WEIGHT: 140 lbs. (Auto. Trip Hammer)	DROP: 30"	
SAMPLED BY: AV	LOGGED BY: AV	REVIEWED BY: GMC/LTJ

DEPTH (feet)	SAMPLES (Bulk / Driven)	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0							SM	FILL: Reddish brown and brown and gray, moist, medium dense, silty SAND.
		18	9.8	100.0				
							ML	Brown to gray, moist, firm to stiff, clayey SILT; interlayered with clayey sand.
		5						
5		11						Stiff.
		8			9.0			Slight hydrocarbon odor.
								CULVER SAND: Gray to reddish brown, moist, weakly cemented, silty SANDSTONE.
10		29	9.6	120.0				
15		15						Reddish brown.
20								

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BORING LOG

Ohr Eliyahu Academy
Culver City, California

PROJECT NO.	DATE	FIGURE
206945001	1/07	A-1

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED 10/13/06 BORING NO. B-JE1 GROUND ELEVATION 230' ± (MSL) SHEET 2 OF 3 METHOD OF DRILLING 8" Hollow-Stem Auger (C&C Drilling) DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30" SAMPLED BY AV LOGGED BY AV REVIEWED BY GMC/LTJ DESCRIPTION/INTERPRETATION
20			19						CULVER SAND: (Continued) Gray to reddish brown, moist, weakly cemented, silty SANDSTONE; few oxidization.
									Gray, moist, weakly cemented, sandy SILTSTONE; well laminated; oxidization along laminae.
25			15						
30			42						Decrease in sand; micaceous; oxidization along laminae.
35			21						Increase in sand; trace oxidization.
40									

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BORING LOG

Ohr Eliyahu Acadamy
Culver City, California

PROJECT NO.	DATE	FIGURE
206945001	1/07	A-2

DATE DRILLED	10/13/06	BORING NO.	B-JE1
GROUND ELEVATION	230' ± (MSL)	SHEET 3 OF 3	
METHOD OF DRILLING	8" Hollow-Stem Auger (C&C Drilling)		
DRIVE WEIGHT	140 lbs. (Auto. Trip Hammer)	DROP	30"
SAMPLED BY AV	LOGGED BY AV	REVIEWED BY	GMC/LTJ

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
40		■	34						CULVER SAND: (Continued) Gray, moist, moderately cemented, sandy SILTSTONE; micaceous; trace oxidization.
45		■	25						Light brown; weakly cemented.
50		■	65						
									Total Depth = 51.5 feet. No groundwater encountered during drilling. Backfilled with on-site soils on 10/13/06.
55									
60									

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BORING LOG

Ohr Eliyahu Academy
Culver City, California

PROJECT NO.	DATE	FIGURE
206945001	1/07	A-3

DATE DRILLED	10/11/06	BORING NO.	B-JE2	
GROUND ELEVATION	230' ± (MSL)	SHEET	1	OF 3
METHOD OF DRILLING	8" Hollow-Stem Auger (C&C Drilling)			
DRIVE WEIGHT	140 lbs. (Auto. Trip Hammer)	DROP	30"	
SAMPLED BY	AV	LOGGED BY AV	REVIEWED BY	GMC/LTJ

DEPTH (feet)	SAMPLES Bulk / Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0							SM	ASPHALT CONCRETE: Approximately 2 inches thick.
							SM	AGGREGATE BASE: Gray, damp, medium dense, silty SAND with gravel; approximately 6 inches thick.
		17						FILL: Reddish brown, moist, medium dense, silty SAND; mottled.
		11						Brown to reddish brown; finer sand with depth; few gravel.
5		31	9.0	122.8				
		13						Intermixed layers of brown sandy clay and reddish brown clayey sand.
		26			0.5			
10								
							SM	ALLUVIUM: Dark brown, moist, medium dense, silty SAND.
15		17						
20								

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BORING LOG

Ohr Eliyahu Acadamy
Culver City, California

PROJECT NO.	DATE	FIGURE
206945001	1/07	A-4

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED 10/11/06 BORING NO. B-JE2 / GROUND ELEVATION 230' ± (MSL) SHEET 2 OF 3 / METHOD OF DRILLING 8" Hollow-Stem Auger (C&C Drilling) / DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30" / SAMPLED BY AV LOGGED BY AV REVIEWED BY GMC/LTJ / DESCRIPTION/INTERPRETATION
20			13					SM	ALLUVIUM: (Continued) Brown, moist, loose, silty SAND; few rounded gravel.
									Difficult drilling.
25			28						CULVER SAND: Gray brown, moist, weakly cemented, sandy SILTSTONE; few fractures; oxidization along bedding and fractures; micaceous.
30			46						Moderately cemented.
35			18						Trace oxidization.
40									

DATE DRILLED	10/11/06	BORING NO.	B-JE2
GROUND ELEVATION	230' ± (MSL)	SHEET	3 OF 3
METHOD OF DRILLING	8" Hollow-Stem Auger (C&C Drilling)		
DRIVE WEIGHT	140 lbs. (Auto. Trip Hammer)	DROP	30"
SAMPLED BY	AV	LOGGED BY	AV
REVIEWED BY	GMC/LTJ		

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
40			64						CULVER SAND: (Continued) Light gray, moist, moderately cemented, SILTSTONE; few fractures; oxidization along fractures; micaceous.
45			25						Light reddish gray, moist, weakly cemented, silty SANDSTONE; friable; oxidization; micaceous.
50			67						Light gray to brown; damp; coarser sand.
									Total Depth = 51.5 feet. No groundwater encountered during drilling. Backfilled with on-site soils and capped with quick-set concrete on 10/11/06.
55									
60									

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BORING LOG

Ohr Eliyahu Academy
Culver City, California

PROJECT NO.	DATE	FIGURE
206945001	1/07	A-6

DATE DRILLED	10/12/06
BORING NO.	B-JE3
GROUND ELEVATION	230' ± (MSL)
SHEET	1 OF 3
METHOD OF DRILLING	8" Hollow-Stem Auger (C&C Drilling)
DRIVE WEIGHT	140 lbs. (Auto. Trip Hammer)
DROP	30"
SAMPLED BY	AV
LOGGED BY	AV
REVIEWED BY	GMC/LTJ

DEPTH (feet)	SAMPLES Bulk / Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0							CL	FILL: Mottled dark brown and reddish brown and grayish brown, moist, hard, sandy CLAY; little roots and grass.
		27	9.5	114.6				
							SM	Mottled brown and reddish brown, moist, medium dense, silty SAND.
		12						
5								
		36			47.1			Gray to brown; strong hydrocarbon odor.
		17						
10		13						Loose.
							CL	Reddish brown, moist, stiff, sandy CLAY.
15								
		8						
20								

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BORING LOG

Ohr Eliyahu Acadamy
Culver City, California

PROJECT NO.	DATE	FIGURE
206945001	1/07	A-7

DATE DRILLED	10/12/06	BORING NO.	B-JE3
GROUND ELEVATION	230' ± (MSL)	SHEET	2 OF 3
METHOD OF DRILLING	8" Hollow-Stem Auger (C&C Drilling)		
DRIVE WEIGHT	140 lbs. (Auto. Trip Hammer)	DROP	30"
SAMPLED BY	AV	LOGGED BY	AV
REVIEWED BY	GMC/LTJ		

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
20			29					CL	FILL: (Continued) Reddish brown and brown, moist, hard, CLAY; few silt and sand; intermixed.
									CULVER SAND: Gray, moist, weakly cemented, silty SANDSTONE; friable; trace well rounded gravel.
25			18						Gray, moist, weakly cemented, sandy SILTSTONE; trace fractures; oxidization along fractures.
30			38						
35			29						
40									

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BORING LOG

Ohr Eliyahu Academy
Culver City, California

PROJECT NO.	DATE	FIGURE
206945001	1/07	A-8

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
40			44						CULVER SAND: Gray to reddish brown, moist, moderately cemented, sandy SILTSTONE; trace oxidization.
45			30						Reddish brown; weakly cemented; some oxidization.
50			73						Light gray, damp, weakly cemented, silty SANDSTONE; trace oxidization.
									Total Depth = 51.5 feet. No groundwater encountered during drilling. Backfilled with on-site soils on 10/12/06.
55									
60									

DATE DRILLED 10/12/06 BORING NO. B-JE3

GROUND ELEVATION 230' ± (MSL) SHEET 3 OF 3

METHOD OF DRILLING 8" Hollow-Stem Auger (C&C Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY AV LOGGED BY AV REVIEWED BY GMC/LTJ

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BORING LOG

Ohr Eliyahu Acadamy
Culver City, California

PROJECT NO.	DATE	FIGURE
206945001	1/07	A-9

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0								SM	ASPHALT CONCRETE: Approximately 3 inches thick.
								CL	AGGREGATE BASE: Gray, damp, medium dense, silty SAND with gravel; approximately 2 inches thick.
			28						FILL: Brown, damp, hard, sandy CLAY.
			39	10.9	114.0	0.2			Interlayers of brown sandy clay and light reddish brown silty sand.
5			27					SM	Brown, moist, medium dense, silty SAND.
			31						CULVER SAND: Light brown, damp, weakly cemented, poorly graded to silty SANDSTONE; friable; oxidization staining.
10			27						
15			45			3.0			
									Light grayish brown.
20									

DATE DRILLED 10/11/06 BORING NO. B-JE4

GROUND ELEVATION 230' ± (MSL) SHEET 1 OF 3

METHOD OF DRILLING 8" Hollow-Stem Auger (C&C Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY AV LOGGED BY AV REVIEWED BY GMC/LTJ

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BORING LOG

Ohr Eliyahu Acadamy
Culver City, California

PROJECT NO.	DATE	FIGURE
206945001	1/07	A-10

DATE DRILLED	10/11/06	BORING NO.	B-JE4
GROUND ELEVATION	230' ± (MSL)	SHEET	2 OF 3
METHOD OF DRILLING	8" Hollow-Stem Auger (C&C Drilling)		
DRIVE WEIGHT	140 lbs. (Auto. Trip Hammer)	DROP	30"
SAMPLED BY	AV	LOGGED BY	AV
REVIEWED BY	GMC/LTJ		

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
20		■	63						<u>CULVER SAND</u>: (Continued) Light brown, damp, weakly cemented, silty SANDSTONE; laminated; oxidization along laminae.
25		■	69						Reddish brown to gray; few interbeds of gray sandy siltstone; heavy oxidization at top of sample.
									Gray, damp, weakly cemented, clayey SILTSTONE; laminated; oxidization along laminae.
30		■	27						
35	■	■	83						
40									

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION

DATE DRILLED 10/11/06 BORING NO. B-JE4

GROUND ELEVATION 230' ± (MSL) SHEET 3 OF 3

METHOD OF DRILLING 8" Hollow-Stem Auger (C&C Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY AV LOGGED BY AV REVIEWED BY GMC/LTJ

Depth (feet)	Blows/Foot	Description/Interpretation
40	71	CULVER SAND: (Continued) Gray, moist, weakly cemented, sandy SILTSTONE; laminated; oxidization along laminae.
45	25	Increase in oxidization along laminae.
50	29	Damp; trace oxidization along laminae.
		Total Depth = 51.5 feet. No groundwater encountered during drilling. Backfilled with on-site soils and capped with quick-set concrete on 10/11/06.
55		
60		

Ninyo & Moore

BORING LOG

Ohr Eliyahu Academy
Culver City, California

PROJECT NO.	DATE	FIGURE
206945001	1/07	A-12

DATE DRILLED	10/12/06
BORING NO.	B-JE5
GROUND ELEVATION	230' ± (MSL)
SHEET	1 OF 3
METHOD OF DRILLING	8" Hollow-Stem Auger (C&C Drilling)
DRIVE WEIGHT	140 lbs. (Auto. Trip Hammer)
DROP	30"
SAMPLED BY	AV
LOGGED BY	AV
REVIEWED BY	GMC/LTJ

DEPTH (feet)	SAMPLES Bulk / Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0							SM	ASPHALT CONCRETE: Approximately 2 inches thick.
								AGGREGATE BASE: Gray, damp, medium dense, silty SAND with gravel.
		19			0.0			CULVER SAND: Gray brown, moist, weakly cemented, silty SANDSTONE; friable.
		12						Approximately 3- to 4-inch-thick lens of coarse sand and gravel.
5		26			0.0			Trace dark specs; micaceous.
		10						
10		41			1.0			
15		19						Gray, moist, weakly cemented, sandy SILTSTONE; friable.
20								

DATE DRILLED	10/12/06
BORING NO.	B-JE5
GROUND ELEVATION	230' ± (MSL)
SHEET	2 OF 3
METHOD OF DRILLING	8" Hollow-Stem Auger (C&C Drilling)
DRIVE WEIGHT	140 lbs. (Auto. Trip Hammer)
DROP	30"
SAMPLED BY	AV
LOGGED BY	AV
REVIEWED BY	GMC/LTJ

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
20			19						<u>CULVER SAND</u>: (Continued) Gray, moist, weakly cemented, sandy SILTSTONE; friable; few fractures; trace oxidization along fractures.
25			30						Moderately cemented; well laminated. Approximately 3-inch-thick lens of claystone.
30			41						Trace gravel.
35			39						
									Difficult drilling.
40									

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BORING LOG

Ohr Eliyahu Acadamy
Culver City, California

PROJECT NO.	DATE	FIGURE
206945001	1/07	A-14

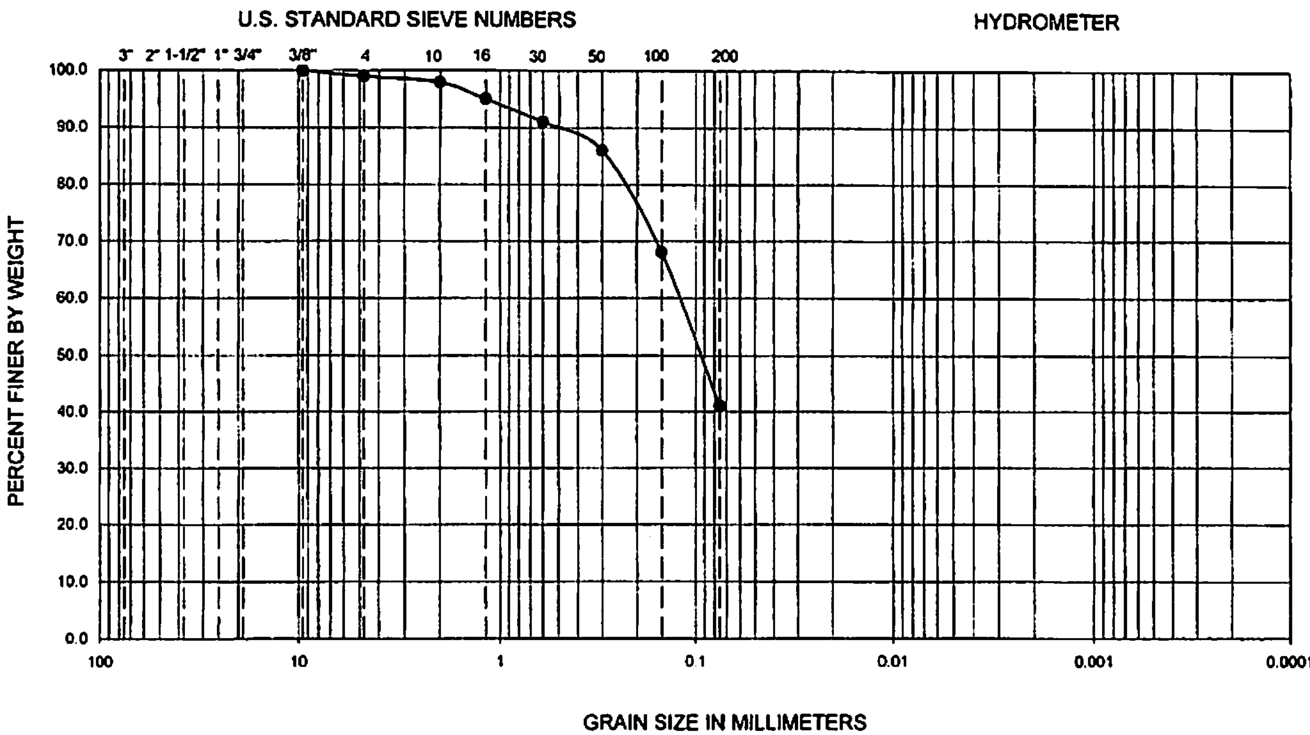
DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED 10/12/06 BORING NO. B-JE5 GROUND ELEVATION 230' ± (MSL) SHEET 3 OF 3 METHOD OF DRILLING 8" Hollow-Stem Auger (C&C Drilling) DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30" SAMPLED BY AV LOGGED BY AV REVIEWED BY GMC/LTJ DESCRIPTION/INTERPRETATION
40			25						CULVER SAND: (Continued) Gray, moist, weakly cemented, silty SANDSTONE.
45			24						Friable; few clayey lenses.
50			49						
									Total Depth = 51.5 feet. No groundwater encountered during drilling. Backfilled with on-site soils and capped with quick-set concrete on 10/12/06.
55									
60									

Ninyo & Moore

BORING LOG
Ohr Eliyahu Acadamy
Culver City, California

PROJECT NO.	DATE	FIGURE
206945001	1/07	A-15

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

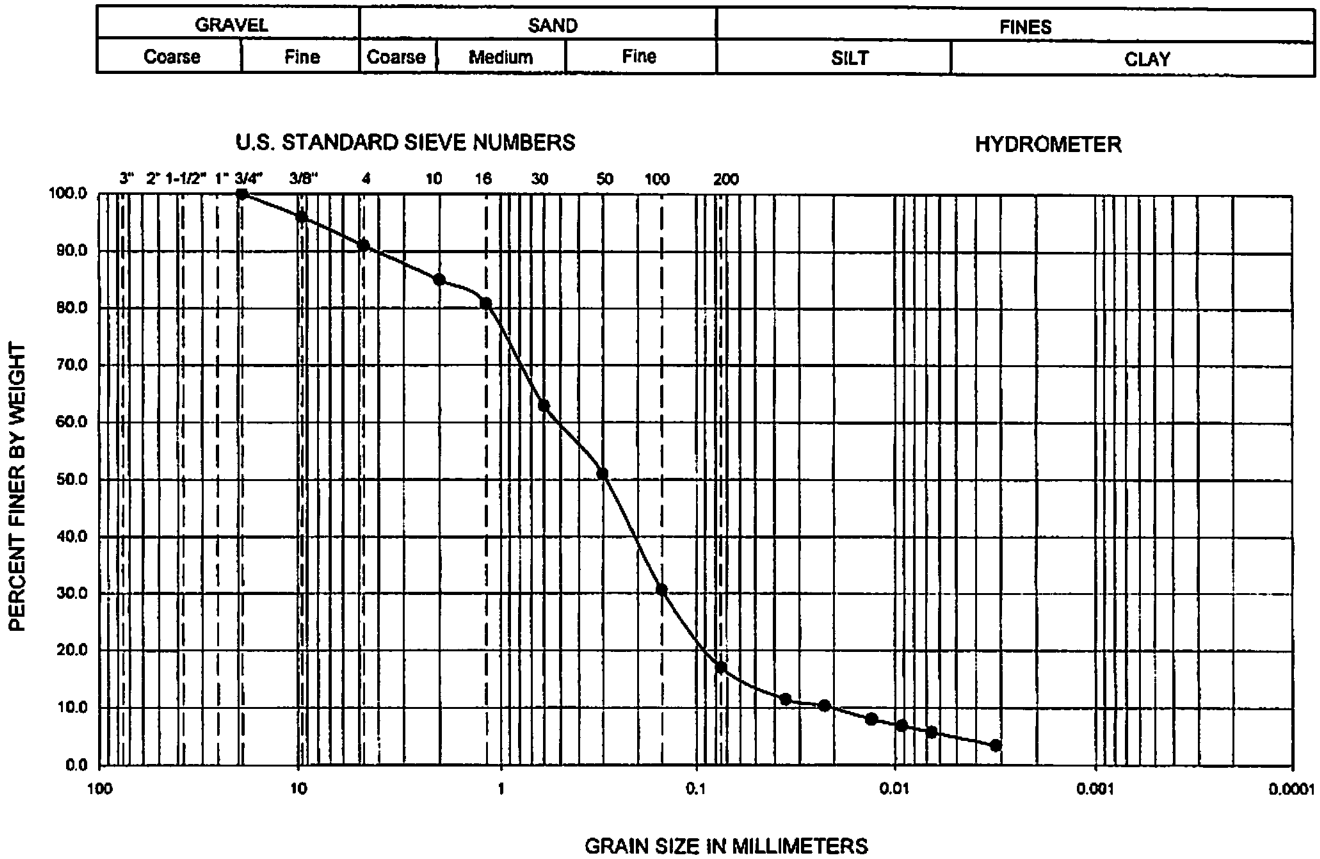


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	B-JE1	20.0-21.5	--	--	--	--	--	0.15	--	--	41	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-63 (02)

Ninyo & Moore		GRADATION TEST RESULTS	FIGURE
PROJECT NO.	DATE	Ohr Eliyahu Academy Culver City, California	B-2
206945001	1/07		

206945001 B-2 Gradation, SIEVE BJE-1 @ 20.0-21.5.xls

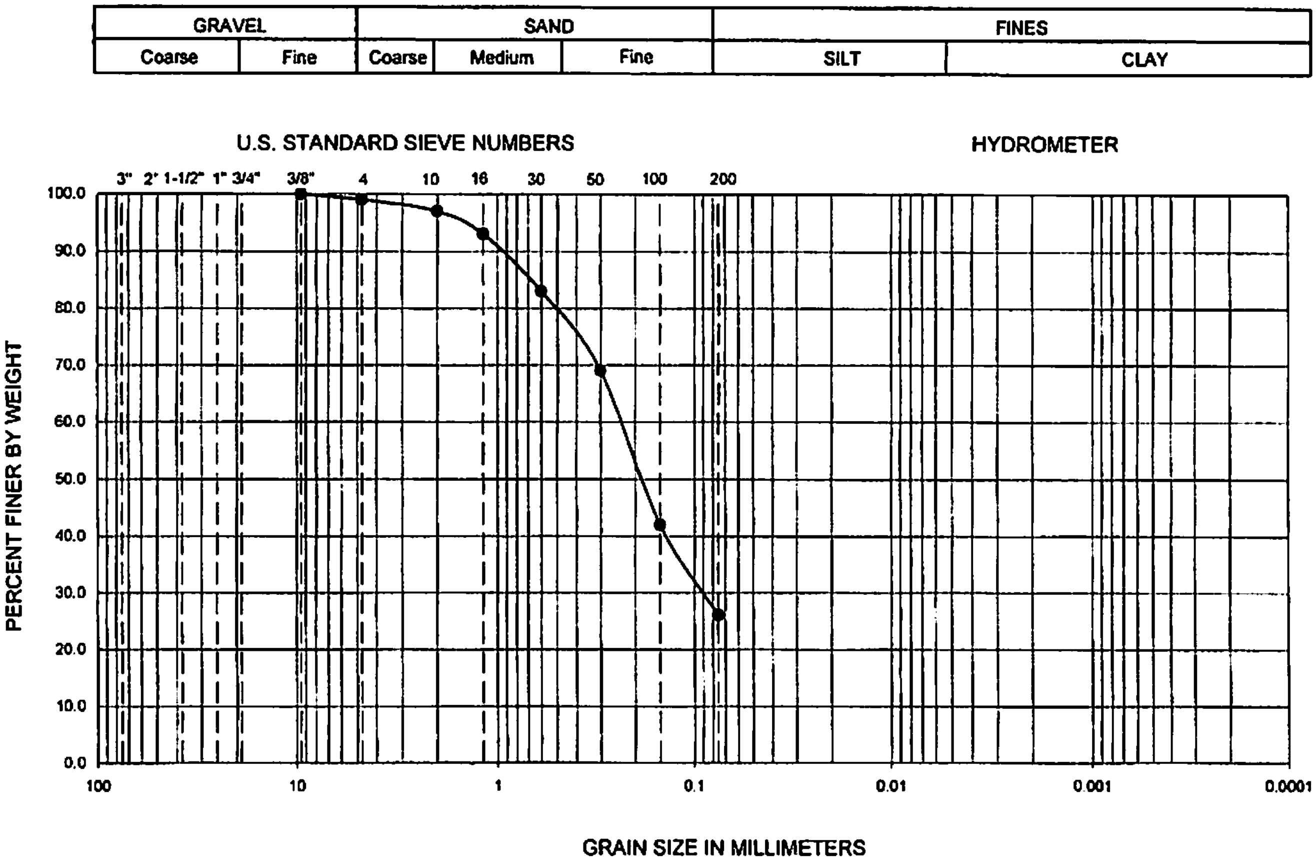


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	B-JE2	3.0-4.5	--	--	--	0.02	0.16	0.51	25.5	2.5	17	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-63 (02)

Ninyo & Moore	GRADATION TEST RESULTS	FIGURE
PROJECT NO. / DATE	Ohr Eliyahu Academy Culver City, California	B-3
206945001 / 1/07		

206945001 B-3 Gradation, SIEVE+HYDRO BJE-2 @3.0-4.5.xls

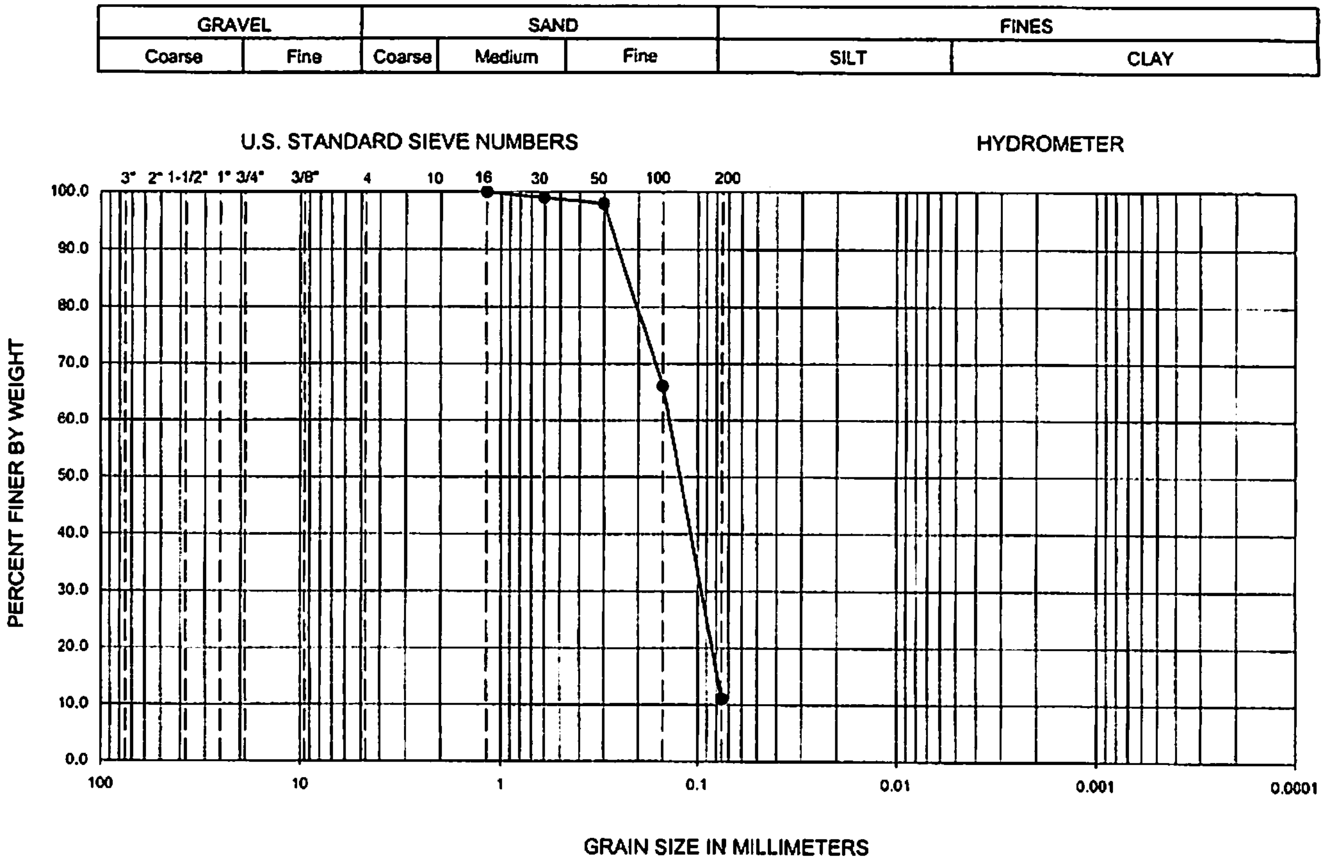


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	B-JE3	5.0-6.5	--	--	--	--	0.09	0.24	--	--	26	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-63 (02)

Ninyo & Moore		GRADATION TEST RESULTS	FIGURE
PROJECT NO.	DATE	Ohr Eliyahu Academy Culver City, California	B-4
206945001	1/07		

206945001 B-4 Gradation SIEVE BJE-3 @ 5.0-6.5.xls



Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	B-JE4	9.0-10.5	--	--	--	--	0.10	0.14	--	--	11	SP-SM

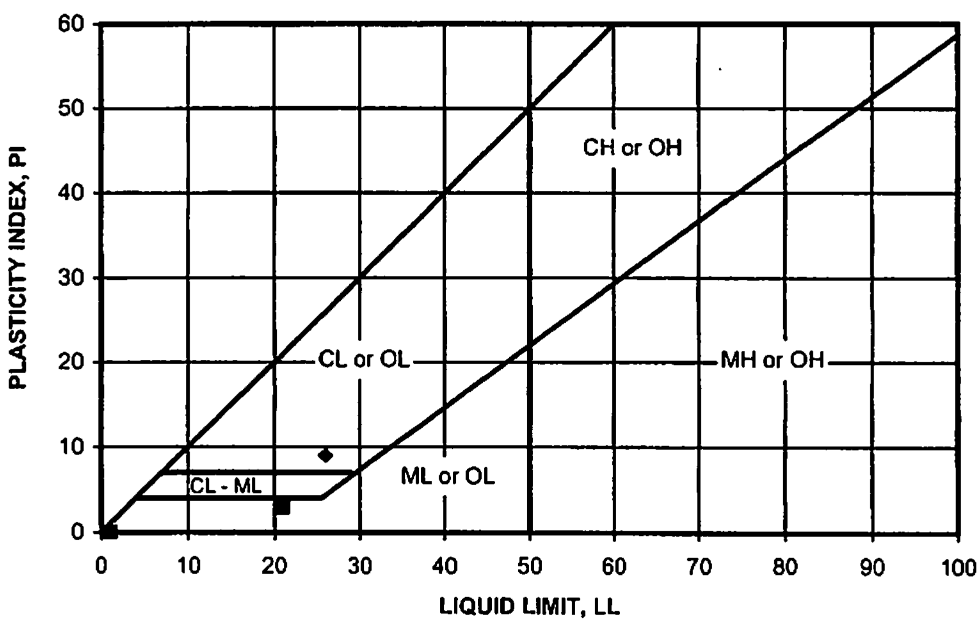
PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-63 (02)

Ninyo & Moore		GRADATION TEST RESULTS	FIGURE
PROJECT NO.	DATE	Ohr Eliyahu Academy Culver City, California	B5
206945001	1/07		

206945001 B-5 Gradation, SIEVE BJE4@9.0-10.5

SYMBOL	LOCATION	DEPTH (FT)	LIQUID LIMIT, LL	PLASTIC LIMIT, PL	PLASTICITY INDEX, PI	USCS CLASSIFICATION (Fraction Finer Than No. 40 Sieve)	USCS (Entire Sample)
●	B-JE1	7.0-8.5	21	18	3	ML	SM
■	B-JE2	4.5-6.0	21	18	3	ML	SM
◆	B-JE3	1.0-2.5	26	17	9	CL	CL

NP - Indicates Non-Plastic



PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 4318-05

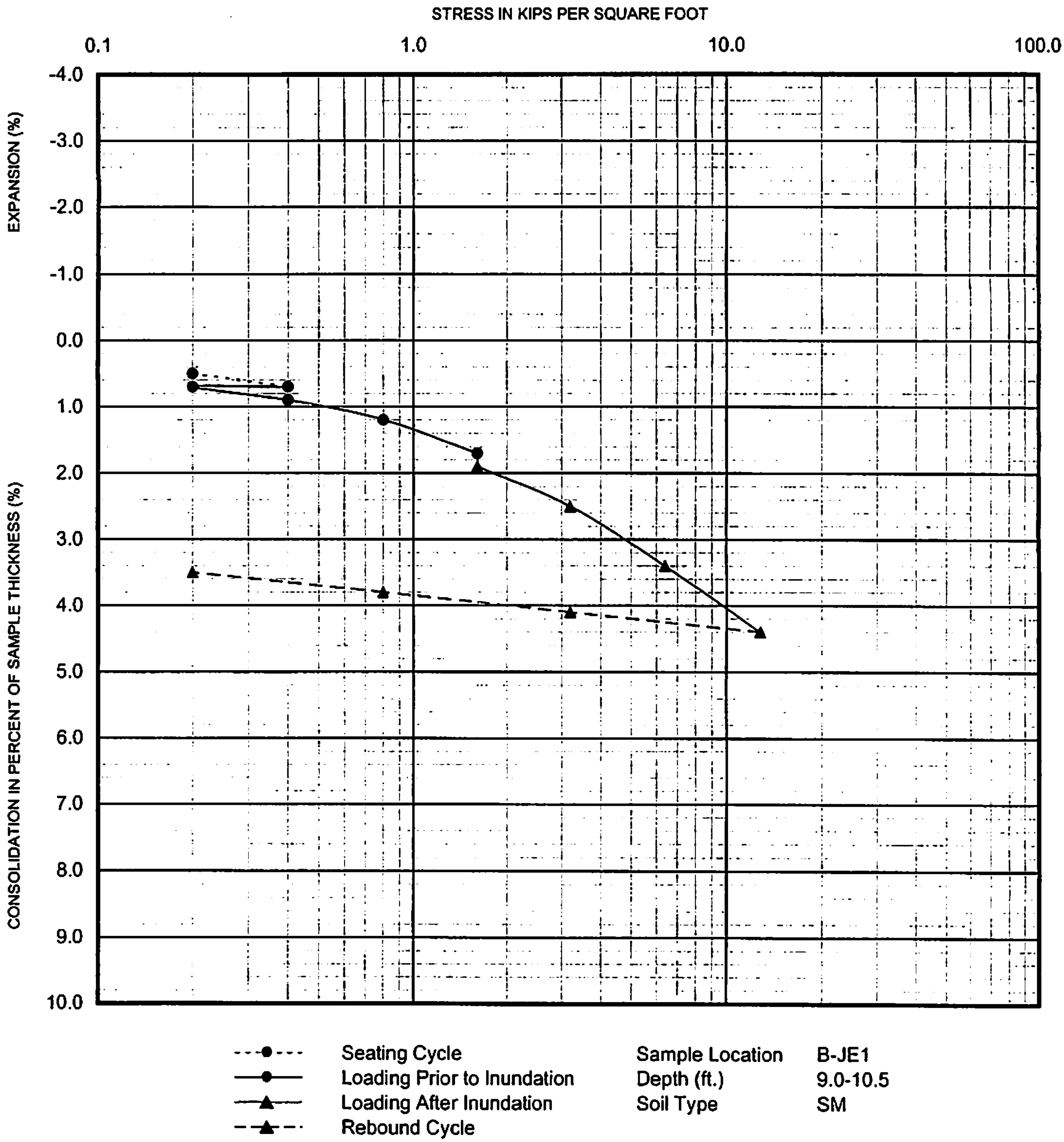
Ninyo & Moore	ATTERBERG LIMITS TEST RESULTS	FIGURE
PROJECT NO. 206945001 / DATE 1/07	Ohr Eliyahu Academy Culver City, California	B-6

SAMPLE LOCATION	SAMPLE DEPTH (FT)	INITIAL MOISTURE (%)	COMPACTED DRY DENSITY (PCF)	FINAL MOISTURE (%)	VOLUMETRIC SWELL (IN)	EXPANSION INDEX	POTENTIAL EXPANSION
B-JE2	1.5-3.0	8.5	115.9	17.2	0.002	2	Very Low
T-1	0.5-5.0	9.0	113.3	19.9	0.002	2	Very Low

PERFORMED IN GENERAL ACCORDANCE WITH ☑ UBC STANDARD 18-2 ☐ ASTM D 4829-03

Ninyo & Moore	EXPANSION INDEX TEST RESULTS	FIGURE
PROJECT NO. 206945001 / DATE 1/07	Ohr Eliyahu Academy Culver City, California	B-7

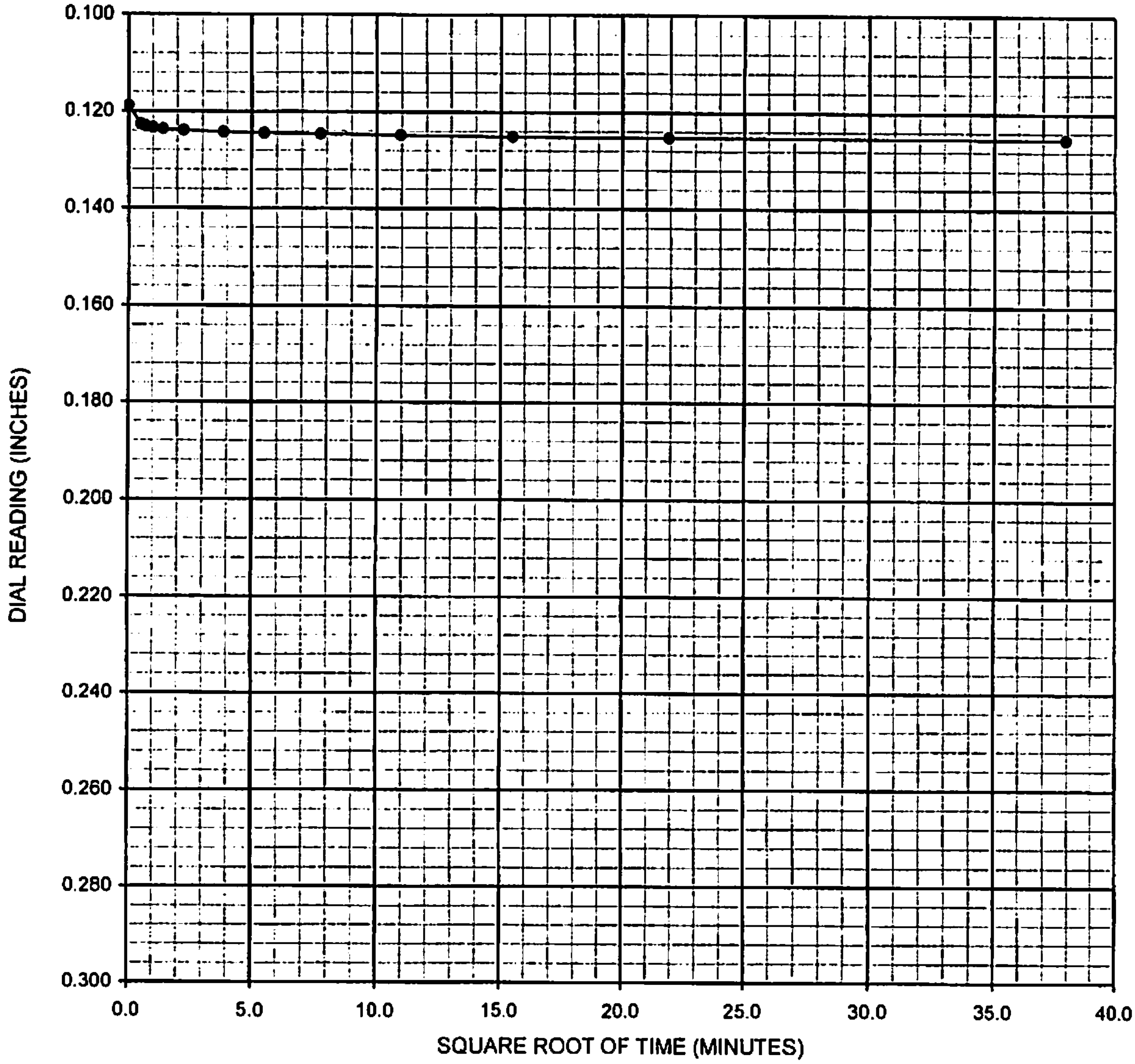
206945001 B-7 Expansion, TRENCH STA 19 & BJE2 1.5-3.0.xls



PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2435-04

Ninyo & Moore		CONSOLIDATION TEST RESULTS	FIGURE
PROJECT NO.	DATE	Ohr Eliyahu Academy Culver City, California	B-8
206945001	1/07		

206945001 B-8 Consolidation, BJE1 9.0-10.5



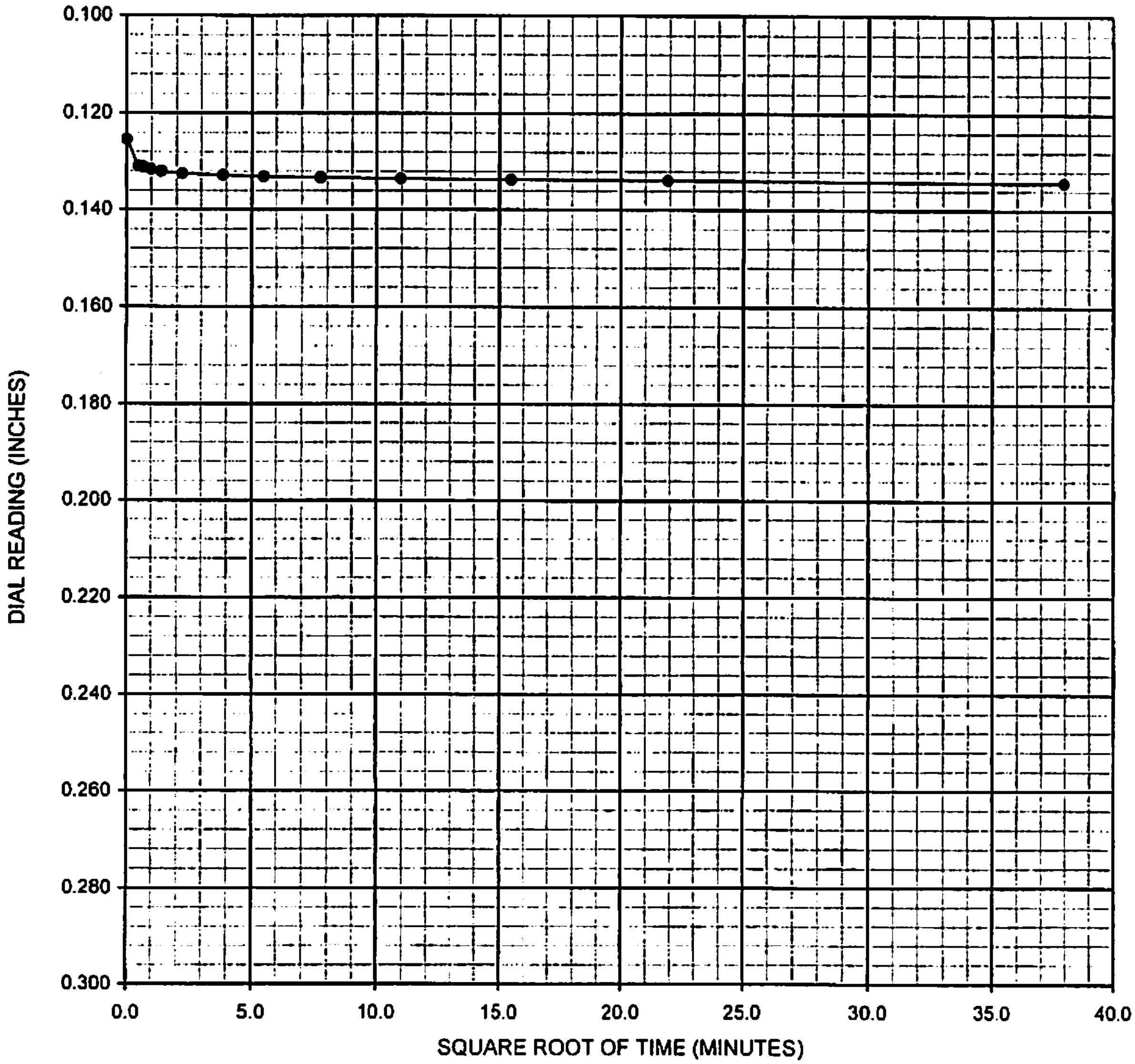
Sample Location B-JE1
Depth (ft.) 9.0-10.5

Load (ksf) 3.2
Soil Type SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2435-04 - SQUARE ROOT OF TIME METHOD

Ninyo & Moore		TIME RATE OF CONSOLIDATION TEST RESULTS	FIGURE
PROJECT	DATE	Ohr Eliyahu Academy Culver City, California	B-9
206945001	1/07		

206945001 B-9 Time, BJE1-9-10.5 --3.2.xls

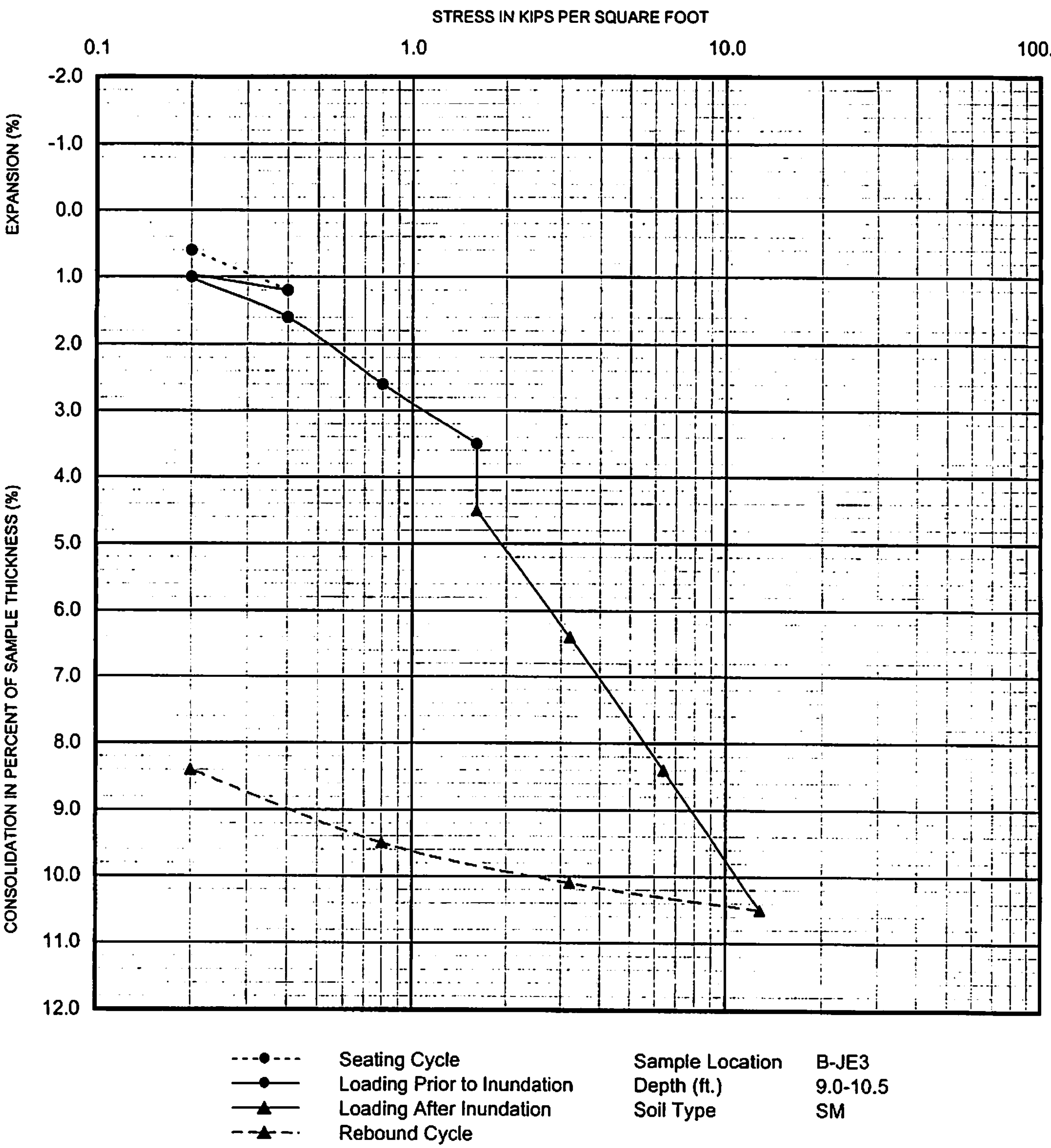


Sample Location	B-JE1	Load (ksf)	6.4
Depth (ft.)	9.0-10.5	Soil Type	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2435-04 - SQUARE ROOT OF TIME METHOD

Ninyo & Moore		TIME RATE OF CONSOLIDATION TEST RESULTS	FIGURE
PROJECT	DATE	Ohr Eliyahu Academy Culver City, California	B-10
206945001	1/07		

206945001 B-10 Time, BJE1 -9-10 5 —6.4.xls

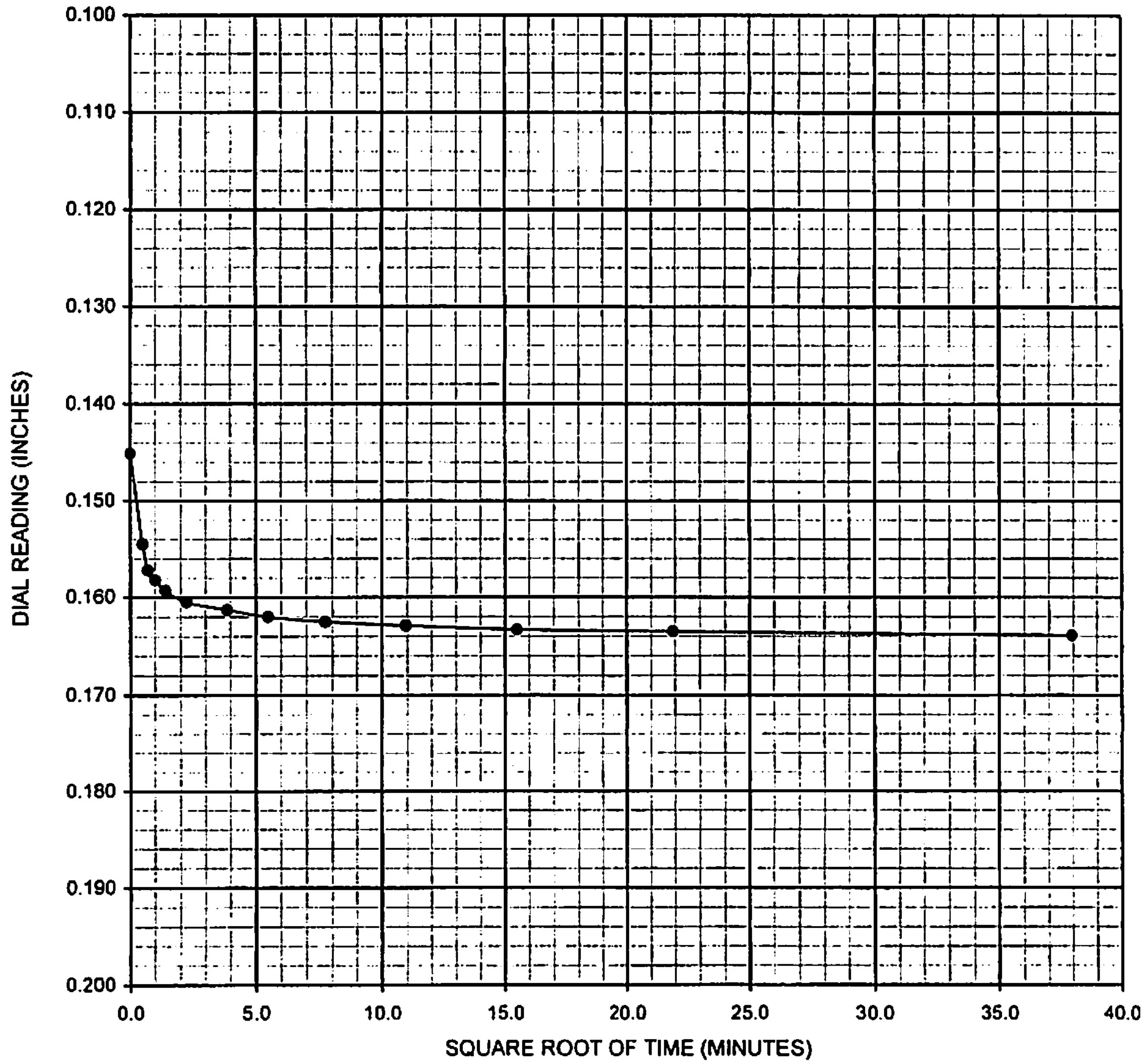


Sample Location	B-JE3
Depth (ft.)	9.0-10.5
Soil Type	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2435-04

Ninyo & Moore		CONSOLIDATION TEST RESULTS	FIGURE
PROJECT NO.	DATE	Ohr Eliyahu Academy Culver City, California	B-11
206945001	1/07		

206945001 B-11 Consolidation, BJE3 9.0-10.5



Sample Location B-JE3

Depth (ft.) 9.0-10.5

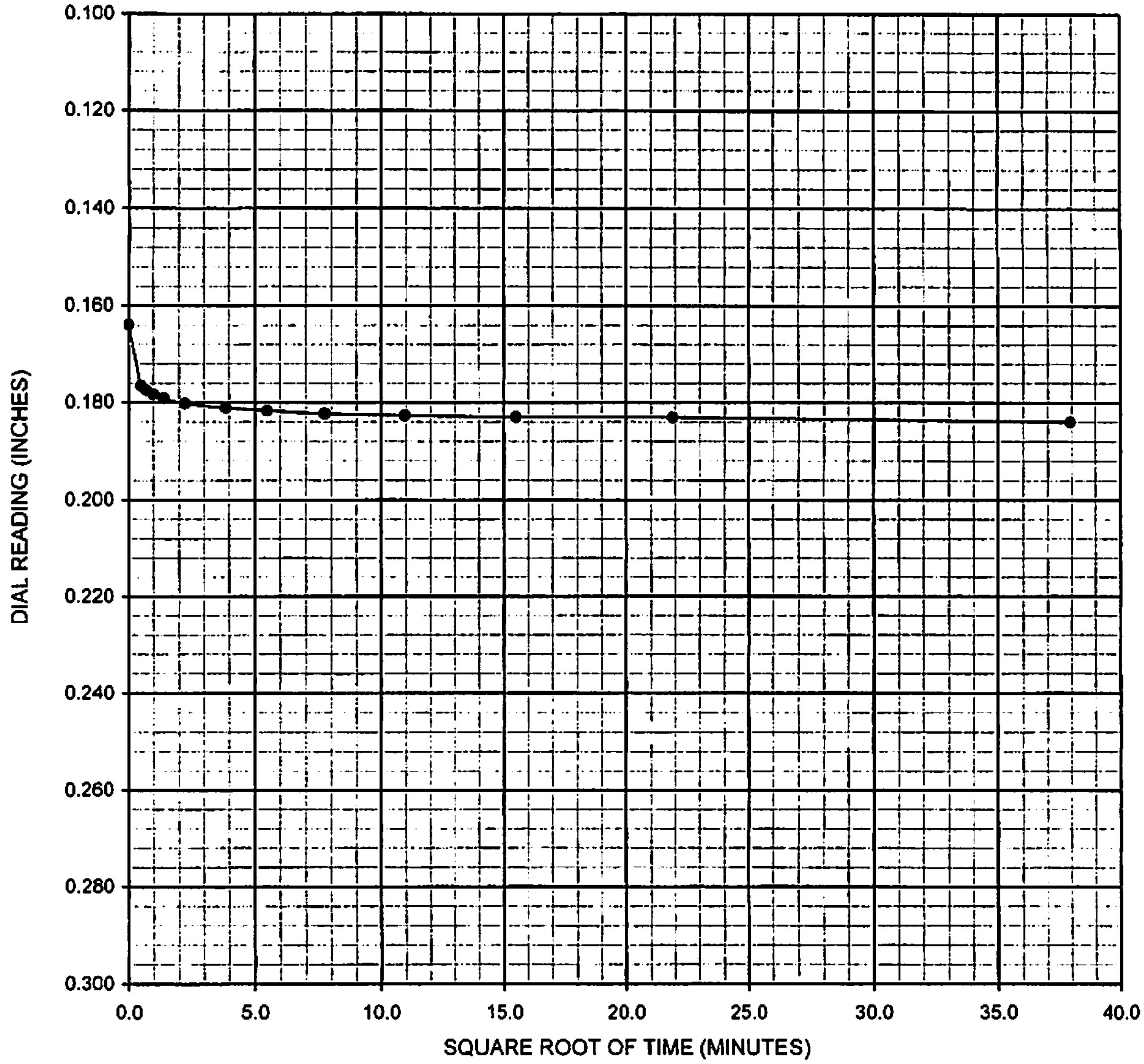
Load (ksf) 3.2

Soil Type SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2435-04 - SQUARE ROOT OF TIME METHOD

Ninyo & Moore		TIME RATE OF CONSOLIDATION TEST RESULTS	FIGURE
PROJECT	DATE	Ohr Eliyahu Academy Culver City, California	B-12
206945001	1/07		

206945001 B-12 Time, B-JE3 @9.0-10.5.xls

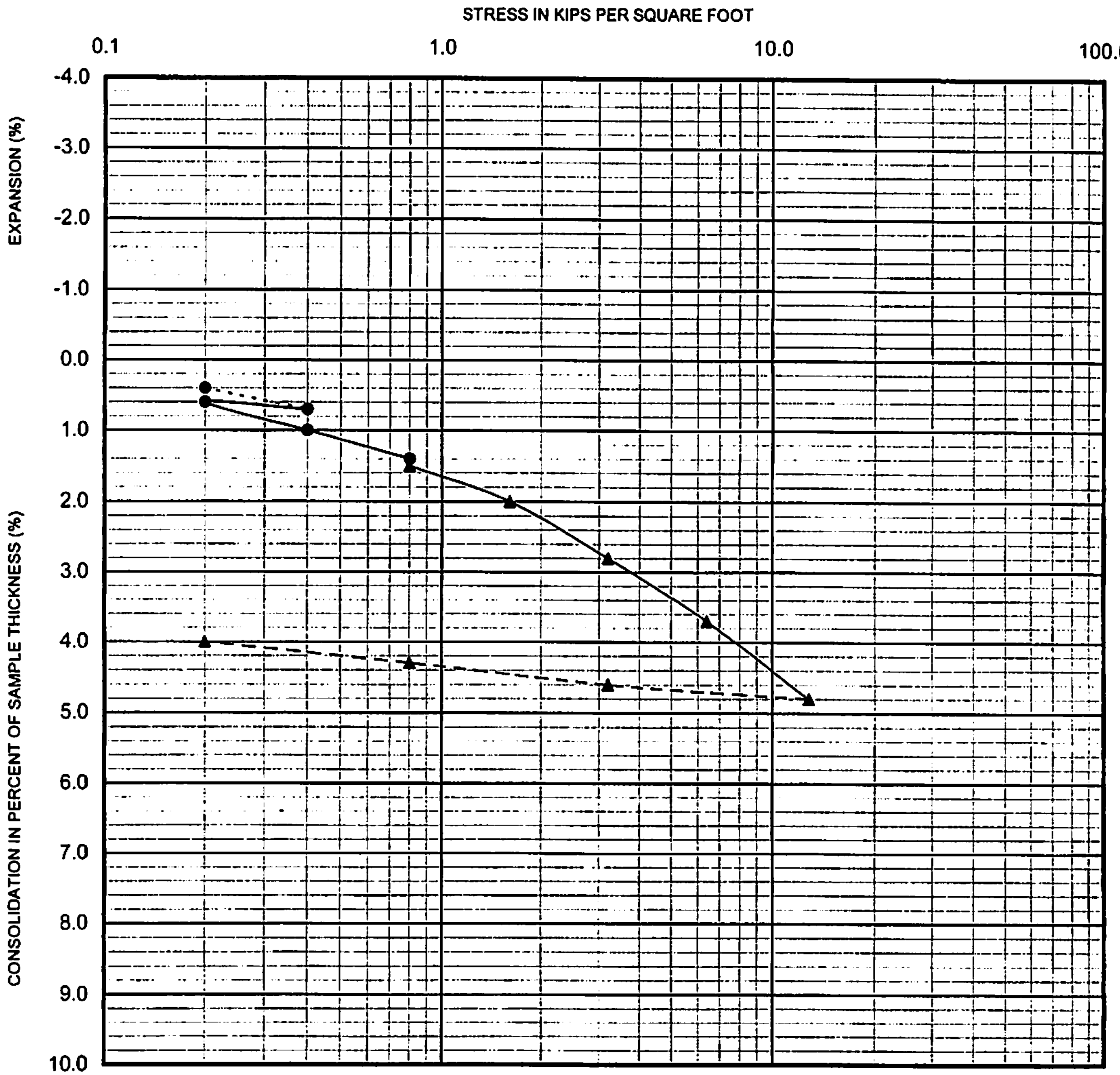


Sample Location	B-JE3	Load (ksf)	6.4
Depth (ft.)	9.0-10.5	Soil Type	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2435-04 - SQUARE ROOT OF TIME METHOD

Ninyo & Moore	TIME RATE OF CONSOLIDATION TEST RESULTS	FIGURE
PROJECT: 206945001 — DATE: 1/07	Ohr Eliyahu Academy Culver City, California	B-13

206945001 B-13 Time, BJE3 @9-10.5 --6.4.xls



Seating Cycle
Loading Prior to Inundation
Loading After Inundation
Rebound Cycle

Sample Location	B-JE4
Depth (ft.)	5.0-6.5
Soil Type	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2435-04

Ninyo & Moore

CONSOLIDATION TEST RESULTS

FIGURE

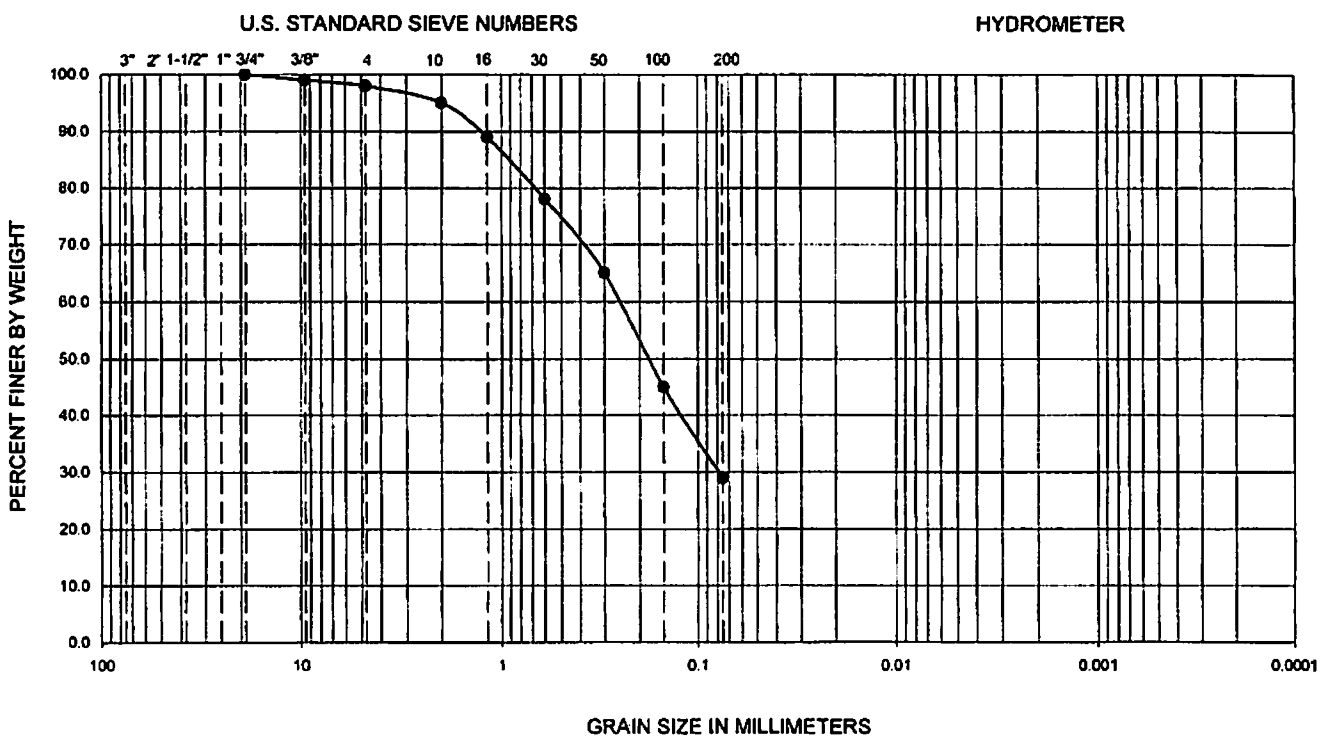
B-14

PROJECT NO.	DATE
206945001	1/07

Ohr Eliyahu Academy
Culver City, California

206945001 B-14 Consolidation, B-JE4 @5.0-6.5.xls

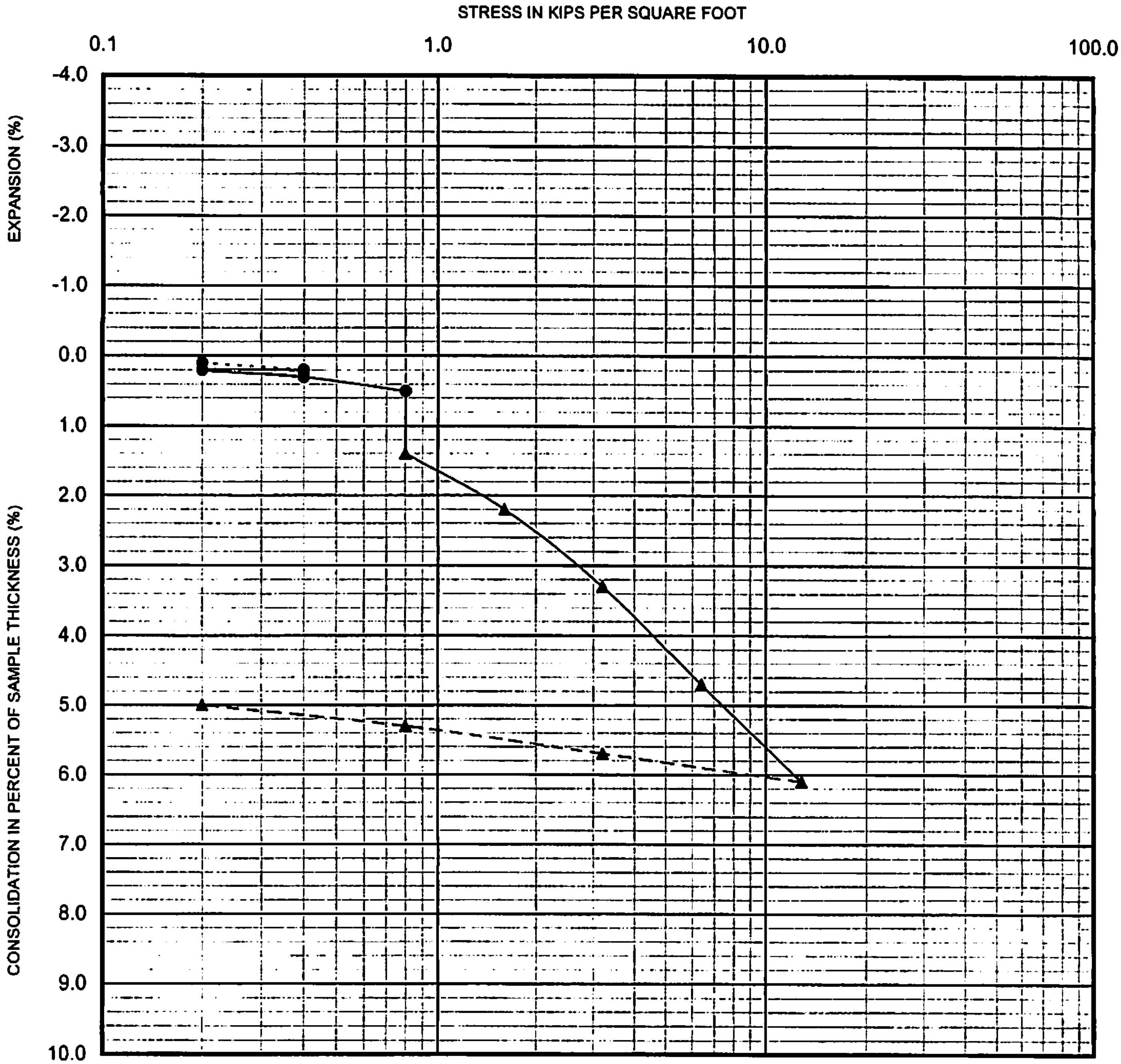
GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY



Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	B-JE1	1.0-2.5	--	--	--	--	0.08	0.25	--	--	29	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-63 (02)

Ninyo & Moore		GRADATION TEST RESULTS	FIGURE
PROJECT NO.	DATE	Ohr Eliyahu Academy Culver City, California	B-1
206945001	1/07		

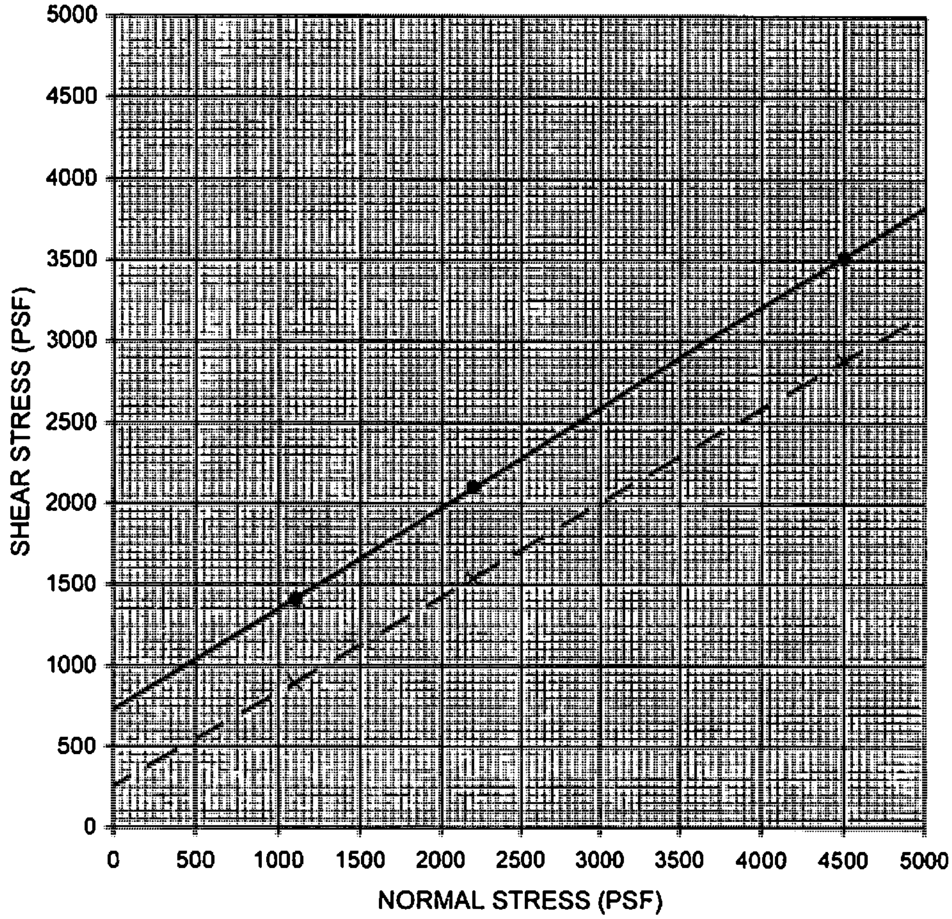


---●---	Seating Cycle	Sample Location	B-JE4
—●—	Loading Prior to Inundation	Depth (ft.)	7.0-8.5
—▲—	Loading After Inundation	Soil Type	SM
--▲--	Rebound Cycle		

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2435-04

Ninyo & Moore		CONSOLIDATION TEST RESULTS	FIGURE
PROJECT NO.	DATE	Ohr Eliyahu Academy Culver City, California	B-15
206945001	1/07		

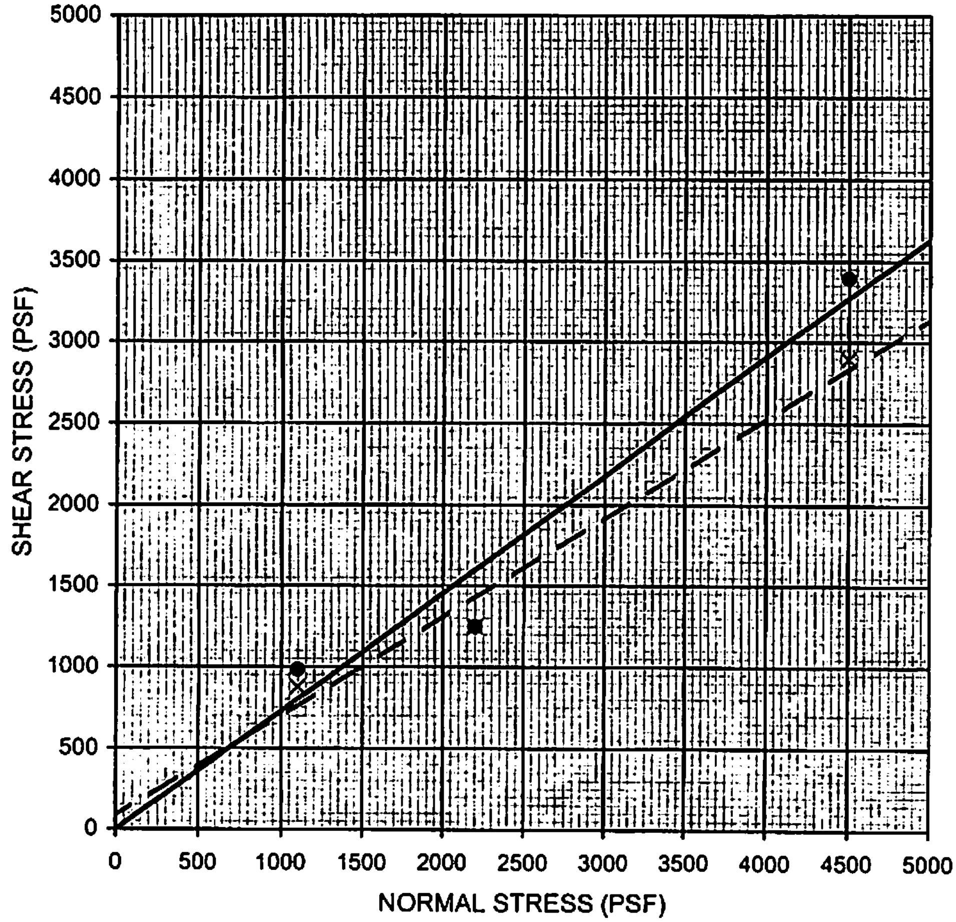
206945001 B-15 Consolidation, BJE-4 @7 0-8 5 xls



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Soil Type
SILTY SAND	——●——	B-JE2	4.5-6.0	Peak	730	32	SM
SILTY SAND	- - X - -	B-JE2	4.5-6.0	Ultimate	245	30	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080-04

Ninyo & Moore		DIRECT SHEAR TEST RESULTS	FIGURE
PROJECT NO.	DATE	Ohr Eliyahu Academy Culver City, California	B-16
206945001	1/07		

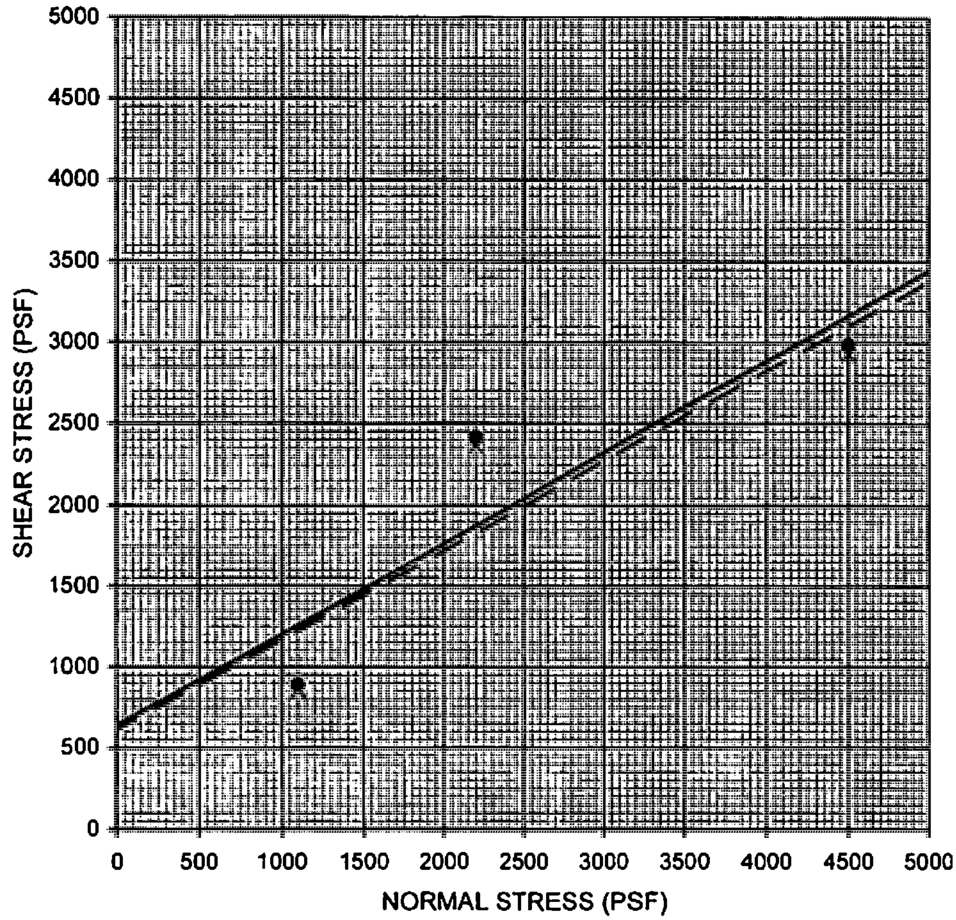


Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Soil Type
Silty SAND	——●——	B-JE3	5.0-6.5	Peak	0	36	SM
Silty SAND	- - X - -	B-JE3	5.0-6.5	Ultimate	82	31	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080-04

Ninyo & Moore		DIRECT SHEAR TEST RESULTS	FIGURE
PROJECT NO.	DATE	Ohr Eliyahu Academy Culver City, California	B-17
206945001	1/07		

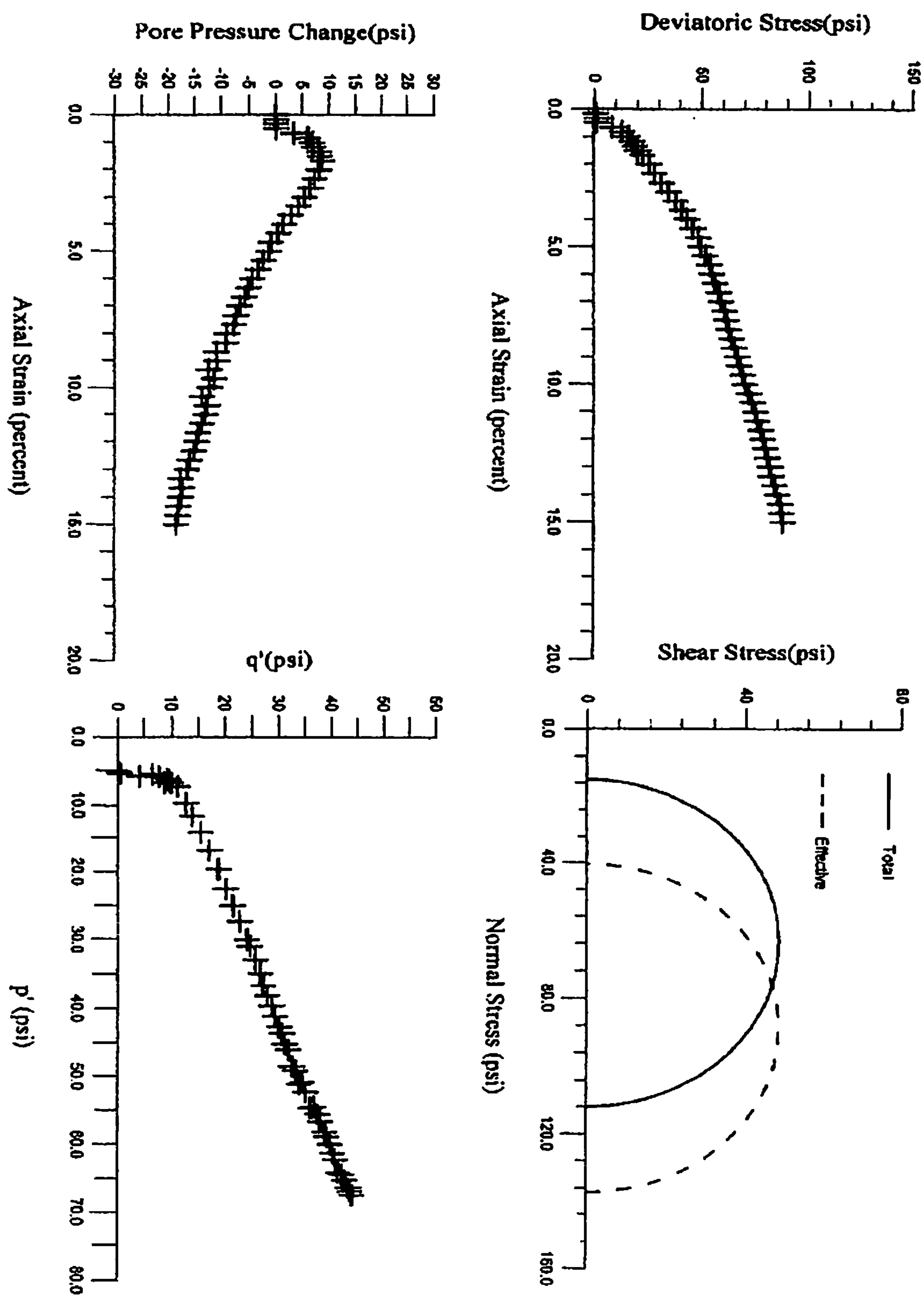
206945001 B-17 Shear, BJE3-5.0-6.5



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Soil Type
Sandy CLAY	—●—	B-JE3	20.0-21.5	Peak	636	29	CL
Sandy CLAY	- - X - -	B-JE3	20.0-21.5	Ultimate	606	29	CL

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080-04

Ninyo & Moore		DIRECT SHEAR TEST RESULTS	FIGURE
PROJECT NO.	DATE	Ohr Eliyahu Academy Culver City, California	B-18
206945001	1/07		

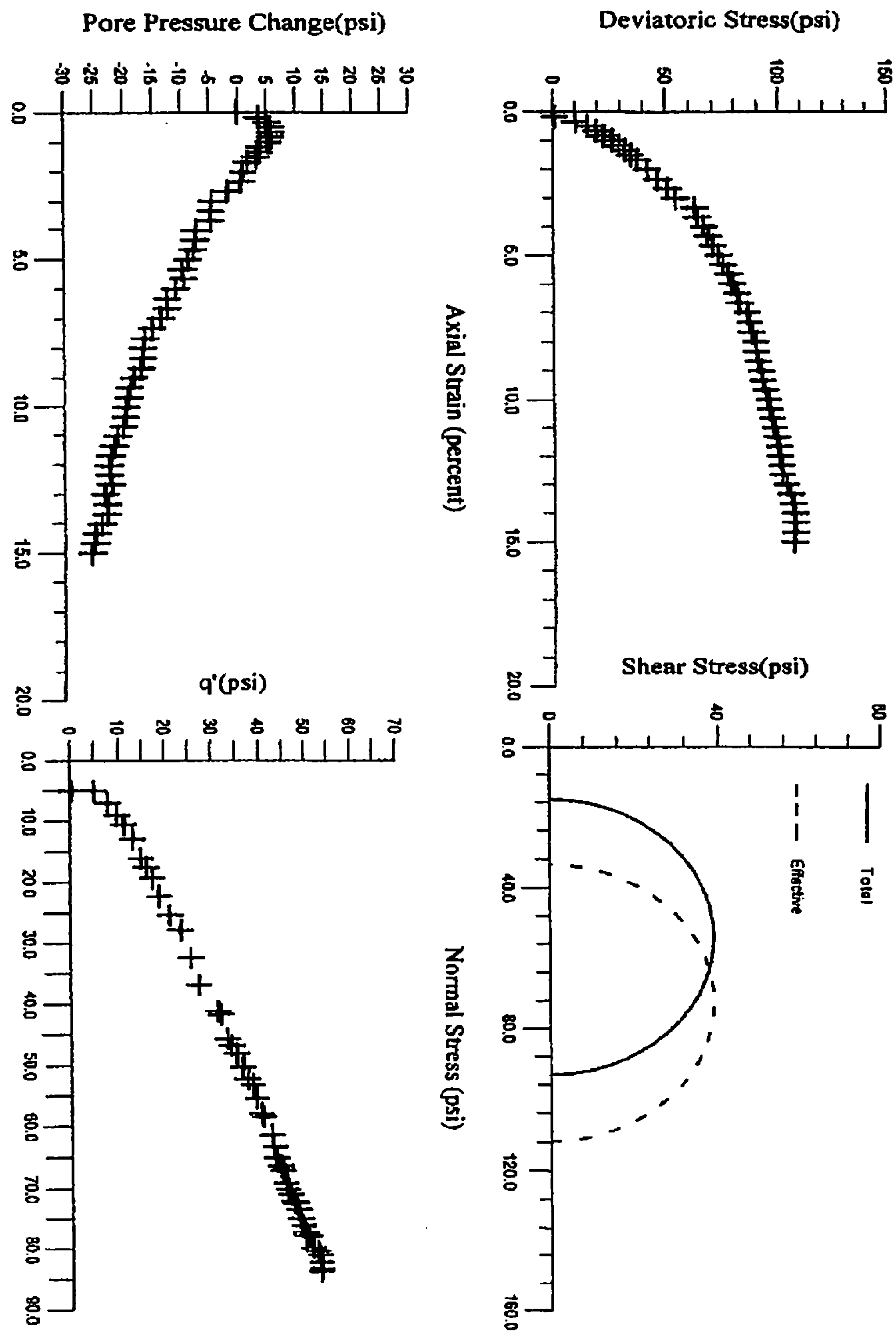


BORING NO.	SAMPLE NO.	DEPTH (FT)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	CELL PRESSURE (PSI)	BACK PRESSURE (PSI)	EFFECTIVE STRESS (PSI)	MAX DEVIATOR STRESS (PSI)
N/A	BJE 1	9.0-10.5	12.0	125.2	95.0	80	15	93

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 4767-04 BY KEANTAN LABORATORIES

Ninyo & Moore		CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST RESULTS	FIGURE
PROJECT NO.	DATE	Ohr Eliyahu Academy Culver City, California	B-19
206945001	1/07		

206945001 B-19 Triaxial, BJE1@9.0-10.5.xls

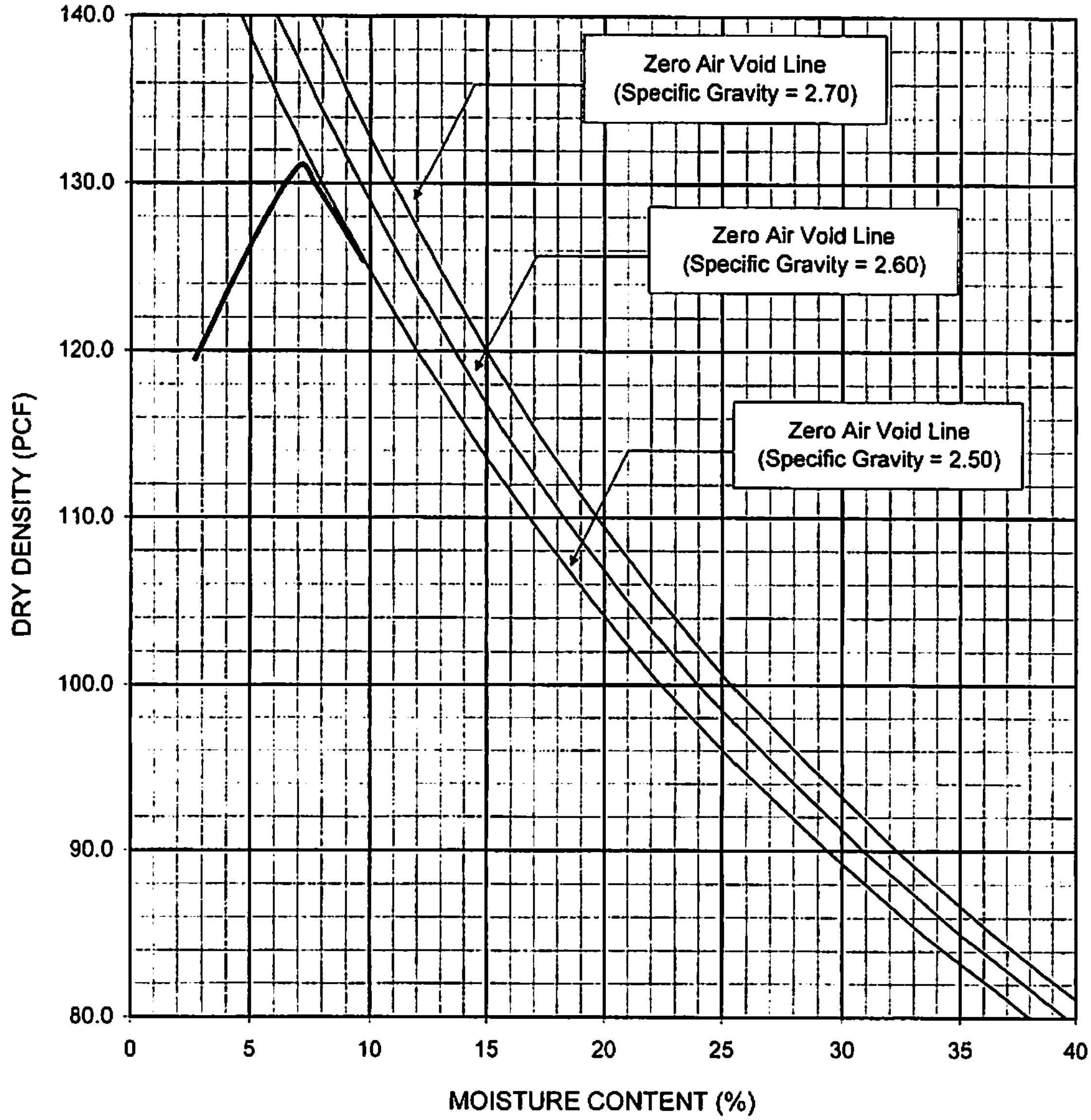


BORING NO.	SAMPLE NO.	DEPTH (FT)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	CELL PRESSURE (PSI)	BACK PRESSURE (PSI)	EFFECTIVE STRESS (PSI)	MAX DEVIATOR STRESS (PSI)
N/A	BJE 2	8.5-10	8.2	122.3	95.0	80	15	112

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 4767-04 BY KEANTAN LABORATORIES

Ninyo & Moore		CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST RESULTS	FIGURE
PROJECT NO.	DATE	Ohr Eliyahu Academy Culver City, California	B-20
206945001	1/07		

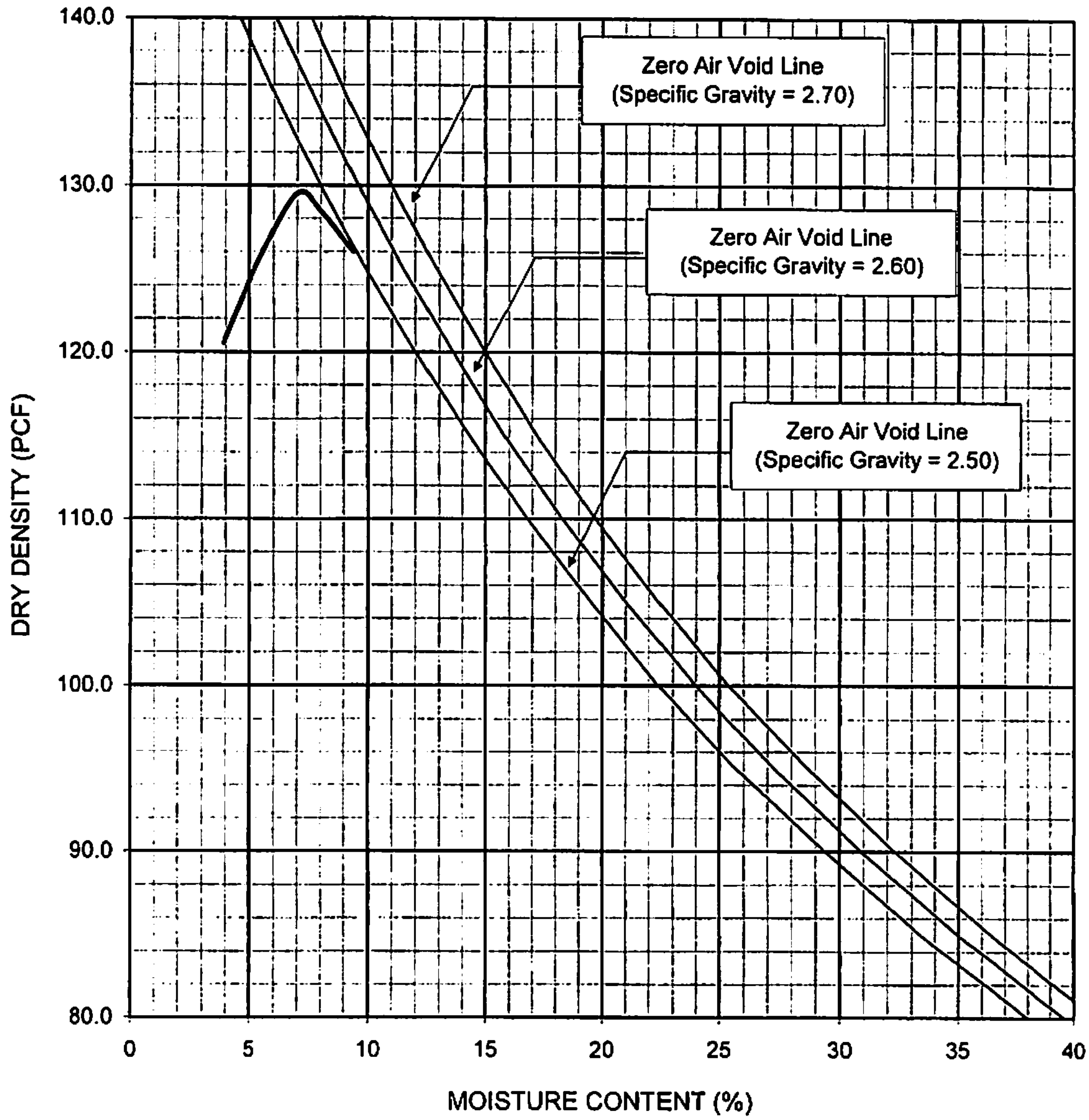
206945001 B-20 Triaxial, BJE2@8.5-10.0.xls



Sample Location	Depth (ft)	Soil Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
B-JE2	1.0-3.0	Reddish Brown Silty SAND (SM)	131.0	7.0
Dry Density and Moisture Content Values Corrected for Oversize (ASTM D 4718-87)			N/A	N/A

PERFORMED IN GENERAL ACCORDANCE WITH ☑ ASTM D 1557-02 ☐ ASTM D 698-00a METHOD ☐ A ☑ B ☐ C

Ninyo & Moore		PROCTOR DENSITY TEST RESULTS	FIGURE
PROJECT NO.	DATE	Ohr Eliyahu Academy Culver City, California	B-21
206945001	1/07		



Sample Location	Depth (ft)	Soil Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
T-1	0.5-5.0	Dark Brown Clayey SAND (SC)	129.5	7.0
Dry Density and Moisture Content Values Corrected for Oversize (ASTM D 4718-87)			N/A	N/A

PERFORMED IN GENERAL ACCORDANCE WITH ☑ ASTM D 1557-02 ☐ ASTM D 698-00a METHOD ☐ A ☑ B ☐ C

Ninyo & Moore		PROCTOR DENSITY TEST RESULTS	FIGURE
PROJECT NO.	DATE	Ohr Eliyahu Academy Culver City, California	B-22
206945001	1/07		

206945001 B-22 Proctor, 1 STA. 19 0.5-5.0.xls

SAMPLE LOCATION	SAMPLE DEPTH (FT)	SOIL TYPE	R-VALUE
B-JE1	1.0-5.0	Sandy SILT	15
T-1	0.5-5.0	Silty SAND	18

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2844-01

Ninyo & Moore

R-VALUE TEST RESULTS

FIGURE

B-23

PROJECT NO.	DATE
206945001	1/07

Ohr Eliyahu Academy
Culver City, California

SAMPLE LOCATION	SAMPLE DEPTH (FT)	pH [1]	RESISTIVITY [1] (Ohm-cm)	SULFATE CONTENT [2]		CHLORIDE CONTENT [3] (ppm)
				(ppm)	(%)	
B-JE1	1.0-2.5	6.9	2,010	100	0.010	140
B-JE2	3.0-4.5	6.2	1,540	115	0.012	70
T-1	0.5-5.0	6.0	2,950	65	0.007	105

[1] PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 643
[2] PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 417
[3] PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 422

Ninyo & Moore		CORROSIVITY TEST RESULTS	FIGURE
PROJECT NO.	DATE	Ohr Eliyahu Academy Culver City, California	B-24
206945001	1/07		

206945001 B-24 Corrosivity, BJE1 BJE2 TRENCH.xls

APPENDIX D

GREENHOUSE GAS ANALYSIS TECHNICAL REPORT

GREENHOUSE GAS ANALYSIS
FOR
STONEVIEW NATURE CENTER
COUNTY OF LOS ANGELES, CALIFORNIA

Prepared For:

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
900 S. Fremont Avenue
Alhambra, California 91803
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(626) 300-3273

Prepared By:

UltraSystems Environmental
16431 Scientific Way
Irvine, California 92618-4355

Project No. 5892

May 2013

This analysis was prepared in accordance with Section 15063(d)(3) and Appendix G of the *State CEQA Guidelines* to determine the potential significant greenhouse gas effects on the physical environment that could result from the implementation of the proposed project.

Report Preparer:

Name & Title: BENJAMIN WONG, Air & Noise Scientist

Signature: ______________________ Date: ______________

Reviewed by:

Name & Title: MICHAEL ROGOZEN, Senior Principal Engineer

Signature: ______________________ Date: ______________

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1.0 INTRODUCTION

The proposed project involves the demolition of a formerly operated elementary school, and the construction of nature center, which would include a 4,000-square-foot, one-story community building, trails, yoga deck, and a native garden, on an approximately 5-acre site across La Cienega Boulevard to the west of the Kenneth Hahn State Recreation Area. **Figure 1** (Regional Location) shows the site in relation to the surrounding area. The immediate vicinity of the proposed project site is shown in **Figure 2** (Project Location Map).

The purpose of this report is to provide a detailed analysis of greenhouse gas (GHG) emissions associated with the Stoneview Nature Center project (project). The report includes a description of federal, state, and local agencies that govern GHGs, and their pertinent statutes and regulations. It then identifies potential impacts of GHGs for this project.

Regional climate and meteorology are then discussed. The report describes regional GHG regulations, provides a description of the analytical methodologies and assumptions used for this study as well as the results of these analyses.

Figure 1
Regional Location

UltraSystems
environmental management planning

Service Layer Credits: National Geographic, Esri, DeLorme, NAVTEQ, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, iPC, Copyright:© 2011 Esri, DeLorme, NAVTEQ, TomTom, Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community; Los Angeles County, 2012-2013; UltraSystems Environmental Inc., 2013

April 23, 2013

Scale 1:2,400
1 Inch = 200 Feet

N

0 200 400 Feet

0 50 100 Meters

Legend

- Project Location
- Project Boundary
- Los Angeles County Boundary

Figure 2
Project Location Map

UltraSystems
environmental management planning

2.0 PROJECT DESCRIPTION

The proposed project site is located in Culver City, on a 5-acre site west of the Kenneth Hahn State Recreation Area and west of La Cienega Boulevard. The proposed project involves the demolition of a formerly operated elementary school, and the construction of nature center, which would include a 4,000-square-foot, one-story community building, trails, yoga deck, and a native garden. The project site was formerly operated as an elementary school, and was acquired by the Baldwin Hills Regional Conservation Authority (BHRCA) in 2011.

The construction for the project is scheduled to begin in mid-2013, and to be completed by the end of 2014. The project will include demolition of the existing school site, grading (approximately 26,500 square yards), and construction of the community building and wooden yoga deck.

3.0 EXISTING CONDITIONS

3.1 Regional Climate

Air quality is affected by both the rate and location of pollutant emissions, and by meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant and greenhouse gas emissions and air quality.

The project site is located in the Culver City, which lies within the South Coast Air Basin (SCAB), which includes all of Orange County and the non-desert portions of Los Angeles County, most of the Riverside County, and the western portion of San Bernardino County ─ including some portions of what was previously known as the Southeast Desert Air Basin. The distinctive climate of the SCAB is determined by its terrain and geographic location. The SCAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest and high mountains around its remaining perimeter. The general region lies in the semi-permanent high pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.

The vertical dispersion of air pollutants in the SCAB is hampered by the presence of persistent temperature inversions. An upper layer of dry air that warms as it descends characterizes high-pressure systems, such as the semi-permanent high-pressure zone in which the SCAB is located. This upper layer restricts the mobility of cooler marine-influenced air near the ground surface and results in the formation of subsidence inversions. Such inversions restrict the vertical dispersion of air pollutants released into the marine layer and, together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog.

The atmospheric pollution potential of an area is largely dependent on winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 mph, smog potential is greatly reduced.[1]

The annual average temperature, as recorded at Culver City (2.3 miles southwest of the proposed project site at 34.00472° N, 118.415° W), is 63 degrees Fahrenheit (°F) with an average winter (December, January, and February) temperature of approximately 57°F and an average summer (June, July, and August) temperature of approximately 69°F. The average maximum recorded temperatures are 77°F during the summer and 67°F during the winter.[2] The annual average of total precipitation in the proposed project area is approximately 13.2 inches, which occurs mostly during the winter and relatively infrequently during the summer. Precipitation averages approximately 8.1 inches during the winter, approximately 3.1 inches

1 South Coast Air Quality Management District (SCAQMD), *CEQA Air Quality Handbook*, April 1993, p. A8-1.

2 Western Regional Climate Center. Updated 31 March 2013. "Western U.S. Climate Historical Summaries." Web site. Available at: http://www.wrcc.dri.edu/coopmap/

during the spring (March, April, and May), approximately 1.9 inches during the fall (September, October, and November), and approximately 0.1 inch during the summer.[3] Winds in the Basin are generally light, tempered by afternoon sea breezes. Severe weather is uncommon in the Basin, but strong easterly winds known as the Santa Ana winds can reach 25 to 35 miles per hour below the passes and canyons. During the spring and summer months, air pollution is carried out of the region through mountain passes in wind currents or is lifted by the warm vertical currents produced by the heating of the mountain slopes. From the late summer through the winter months, because of the average lower wind speeds and temperatures in the proposed project area and its vicinity, air contaminants do not readily disperse, thus trapping air pollution in the area.

3.2 Regulatory Setting

Federal, state, and local agencies have established regulations and various plans and policies to reduce GHG emission, as described below.

3.2.1 Pollutants of Concern

Greenhouse Gases

Greenhouse gases (GHG) are defined under the California Global Warming Solutions Act of 2006 (AB 32) as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC)s, perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Associated with each GHG species is a “global warming potential” (GWP), which is defined as the ratio of degree of warming to the atmosphere that would result from the emission of one mass unit of a given GHG compared with one equivalent mass unit of CO_2 over a given period of time. By this definition, the GWP of CO_2 is always 1. The GWPs of methane and nitrous oxide are 21 and 310, respectively.[4] “Carbon dioxide equivalent” (CO_2e) emissions are calculated by weighting each GHG compound’s emissions by its GWP and then summing the products.

Carbon dioxide (CO_2) is a clear, colorless, and odorless gas. Fossil fuel combustion is the main human-related source of CO_2 emissions; electricity generation and transportation are first and second in the amount of CO_2 emissions, respectively. Carbon dioxide is the basis of GWP, and thus has a GWP of 1.

Methane (CH_4) is a clear, colorless gas, and is the main component of natural gas. Anthropogenic sources of CH_4 are fossil fuel production, biomass burning, waste management, and mobile and stationary combustion of fossil fuel. Wetlands are responsible for the majority of the natural methane emissions.[5] As mentioned above, CH_4, within a 100-year period, is 21 times more effective in trapping heat than is CO_2.

---

3 Western Regional Climate Center. Updated 31 March 2013. “Western U.S. Climate Historical Summaries.” Web site. Available at: http://www.wrcc.dri.edu/coopmap/

4 California Climate Action Registry. *General Reporting Protocol. Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1*. Los Angeles, California (January 2009), p. 91.

5 U.S. Environmental Protection Agency, “Methane.” Climate Change Web Site. Internet URL: http://www.epa.gov/methane/. Updated April 1, 2011.

Nitrous oxide (N_2O) is a colorless, clear gas, with a slightly sweet odor. N_2O has both natural and human-related sources, and is removed from the atmosphere mainly by photolysis, or breakdown by sunlight, in the stratosphere. The main human-related sources of N_2O in the United States are agricultural soil management (synthetic nitrogen fertilization), mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production.[6] Nitrous oxide is also produced from a wide range of biological sources in soil and water. Within a 100-year span, N_2O is 310 times more effective in trapping heat than is CO_2.[7]

3.2.2 Applicable Greenhouse Gas Regulations

Federal Greenhouse Gas Regulations

The federal government has been involved in climate change issues at least since 1978, when Congress passed the National Climate Program Act (92 Stat. 601), under authority of which the National Research Council prepared a report predicting that additional increases in atmospheric CO_2 would lead to non-negligible changes in climate. At the "Earth Summit" in 1992 in Rio de Janeiro, President George H. W. Bush signed the United Nations Framework Convention on Climate Change (UNFCCC), a nonbinding agreement among 154 nations to reduce atmospheric concentrations of carbon dioxide and other greenhouse gases. The treaty was ratified by the U.S. Senate. However, when the UNFCCC signatories met in 1997 in Kyoto, Japan, and adopted a protocol that assigned mandatory targets for industrialized nations to reduce greenhouse gas emissions, the U.S. Senate expressed its opposition to the treaty. The Kyoto Protocol was not submitted to the Senate for ratification.

In *Massachusetts et al. v. Environmental Protection Agency et al.* [549 U.S. 497 (2007)], the U.S. Supreme Court ruled that CO_2 was an air pollutant under the Clean Air Act, and that consequently, the U.S. Environmental Protection Agency (USEPA) had the authority to regulate its emissions. The Court also held that the Administrator must determine whether emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On April 24, 2009, the USEPA published its intention to find that (1) the current and projected concentrations of the mix of six key greenhouse gases—CO_2, CH_4, N_2O, HFCs, PFCs and SF_6—in the atmosphere threaten the public health and welfare of current and future generations, and that (2) the combined emissions of GHG from new motor vehicles and motor vehicle engines contribute to the atmospheric concentrations of these key greenhouse gases and hence to the threat of climate change (74 Fed. Reg. 18886). These findings are required for subsequent regulations that would control GHG emissions from motor vehicles.

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6 U.S. Environmental Protection Agency, "Nitrous Oxide." Climate Change Web Site. Internet URL: http://www.epa.gov/nitrousoxide/. Updated June 22, 2010.

7 Ibid.

California Greenhouse Gas Regulations

Executive Order S-3-05 (GHG Emissions Reductions). Executive Order #S-3-05, signed by Governor Arnold Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80% reduction in GHG emissions to below 1990 levels by 2050.

The California Global Warming Solutions Act of 2006 (AB 32). In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Global Warming Solutions Act of 2006 (Health and Safety Code § 38500 et seq.), into law. AB 32 was intended to effectively end the scientific debate in California over the existence and consequences of global warming. In general, AB 32 directs the California Air Resources Board (CARB) to do the following:

- On or before June 30, 2007, publicly make available a list of discrete early action GHG emission reduction measures that can be implemented prior to the adoption of the statewide GHG limit and the measures required to achieve compliance with the statewide limit;
- By January 1, 2008, determine the statewide levels of GHG emissions in 1990, and adopt a statewide GHG emissions limit that is equivalent to the 1990 level (an approximately 25% reduction in existing statewide GHG emissions);
- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures;
- On or before January 1, 2011, adopt quantifiable, verifiable, and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020, to become operative on January 1, 2012, at the latest. The emission reduction measures may include direct emission reduction measures, alternative compliance mechanisms, and potential monetary and non-monetary incentives that reduce GHG emissions from any sources or categories of sources as CARB finds necessary to achieve the statewide GHG emissions limit; and
- Monitor compliance with and enforce any emission reduction measure adopted pursuant to AB 32.

On December 11, 2008, the CARB approved the *Climate Change Scoping Plan*[8] pursuant to AB 32. The Scoping Plan recommends a wide range of measures for reducing GHG emissions, including (but not limited to):

- Expanding and strengthening of existing energy efficiency programs;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a GHG emissions cap-and-trade program;

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8 California Air Resources Board, *Climate Change Scoping Plan, a Framework for Change, Pursuant to AB32, the California Global Warming Solutions Act of 2006* (December 11, 2008).

- Establishing targets for transportation-related GHG emissions for regions throughout the state, and pursuing policies and incentives to meet those targets;
- Implementing existing state laws and policies, including California's clean car standards, goods movement measures and the Low Carbon Fuel Standard; and
- Targeted fees to fund the state's long-term commitment to administering AB 32.

Executive Order S-01-07 (Low Carbon Fuel Standard). Executive Order #S-01-07 (January 18, 2007) establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020 through establishment of a Low Carbon Fuel Standard. Carbon intensity is the amount of CO_2e per unit of fuel energy emitted from each stage of producing, transporting and using the fuel in a motor vehicle. On April 23, 2009 the Air Resources Board adopted a regulation to implement the standard.

Senate Bill 97. Senate Bill 97 was signed by the governor on August 24, 2007. The bill required the Office of Planning and Research (OPR), by July 1, 2009, to prepare, develop and transmit to the resources agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, including, but not limited to, effects associated with transportation or energy consumption. On April 13, 2009 OPR submitted to the Secretary for Natural Resources its proposed amendments to the state CEQA Guidelines for greenhouse gas emissions. The Resources Agency adopted those guidelines on December 30, 2009, and they became effective on March 18, 2010. The amendments treat GHG emissions as a separate category of impacts; i.e. they are not to be addressed as part of an analysis of air quality impacts.

Section 15064.4, which was added to the CEQA Guidelines, specifies how the significance of impacts from GHGs is to be determined. First, the lead agency should "make a good faith effort" to describe, calculate or estimate the amount of GHG emissions resulting from a project. After that, the lead agency should consider the following factors when assessing the impacts of the GHG emissions on the environment:

- The extent to which the project may increase or reduce GHG emissions, relative to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional or local plan for the reduction or mitigation of GHG emissions.

The Governor's Office of Planning and Research (OPR) asked the CARB to make recommendations for GHG-related thresholds of significance. On October 24, 2008, the CARB issued a preliminary draft staff proposal for *Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality*

Act.[9] After holding two public workshops and receiving comments on the proposal, CARB staff decided not to proceed with threshold development.[10] Quantitative significance thresholds, if any, are to be set by local agencies.

Senate Bill 375. Senate Bill 375 requires coordination of land use and transportation planning to reduce GHG emissions from transportation sources. Regional transportation plans, which are developed by metropolitan transportation organizations such as the Southern California Association of Governments (SCAG), are to include "sustainable community strategies" to reduce GHG emissions.

Title 24. The Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6, of the *California Code of Regulations*) were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Compliance with Title 24 will result in decreases in GHG emissions. The California Energy Commission adopted the 2008 changes to the Building Energy Efficiency Standards on April 23, 2008 with an aim to promote the objectives listed below.[11]

- Provide California with an adequate, reasonably-priced and environmentally-sound supply of energy.
- Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its greenhouse gas emissions to 1990 levels by 2020.
- Pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.
- Act on the findings of California's Integrated Energy Policy Report (IEPR) that Standards are the most cost effective means to achieve energy efficiency, expects the Building Energy Efficiency Standards to continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Standards in reducing energy related to meeting California's water needs and in reducing greenhouse gas emissions.
- Meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of state building codes.
- Meet the Executive Order in the Green Building Initiative to improve the energy efficiency of nonresidential buildings through aggressive standards.

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9 California Air Resources Board. *Preliminary Draft Staff Proposal. Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act*. Planning and Technical Support Division, Sacramento, California (October 24, 2008).

10 Personal communication from Douglas Ito, California Air Resources Board, Sacramento, California, to Michael Rogozen, UltraSystems Environmental Inc., Irvine, California. March 29, 2010.

11 "2008 Building Energy Efficiency Standards." California Energy Commission, Sacramento, California. (http://www.energy.ca.gov/title24/2008standards/index.html). These became effective January 1, 2010.

The provisions of Title 24, Part 6 apply to all buildings for which an application for a building permit or renewal of an existing permit is required by law. They regulate design and construction of the building envelope, space-conditioning and water-heating systems, indoor and outdoor lighting systems of buildings, and signs located either indoors or outdoors. Title 24, Part 6 specifies mandatory, prescriptive and performance measures, all designed to optimize energy use in buildings and decrease overall consumption of energy to construct and operate residential and nonresidential buildings.[12] Mandatory measures establish requirements for manufacturing, construction and installation of certain systems; equipment and building components that are installed in buildings.

4.0 GREENHOUSE GAS IMPACTS ANALYSIS

This analysis was prepared in accordance with Appendix G of the California Environmental Quality Act (CEQA) Guidelines, and with the SCAQMD *CEQA Air Quality Handbook*. GHG impacts are typically long-term impacts and include both impacts from short-term activities such as construction, and long-term activities associated with the operation of a proposed project upon its completion.

4.1 CEQA Impact Review Criteria

In accordance with *State CEQA Guidelines* Appendix G, implementation of the proposed project would result in a potentially significant impact if it were to:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Where available, the significance criteria established by the applicable air quality management district (AQMD) or air pollution control district (APCD) may be relied upon to make the significance determinations.

4.1.1 Emission Thresholds for Greenhouse Gas Impacts

In October, 2008, the SCAQMD issued its *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*. The SCAQMD Board approved the document at its December 5, 2008 meeting.[13]

The SCAQMD guidance proposes a tiered approach to establishing a significance threshold. It is designed to "capture" 90 percent of GHG emissions; that is, the threshold is low enough that it applies to the sources of 90 percent of the region's GHG emissions, and is high enough that it excludes most minor sources. The SCAQMD approach considers "direct, indirect, and, to the

[12] *2008 Building Energy Efficiency Standards for Residential and Nonresidential Buildings*, California Energy Commission, (December 2008).

[13] South Coast Air Quality Management District. Interim CEQA GHG Significance Thresholds for Stationary Sources, Rules and Plans. December 5, 2008. Internet URL: http://www.aqmd.gov/hb/2008/December/081231a.htm. Last accessed: November 7, 2012.

extent information is available, life cycle emissions during construction and operation. Construction emissions will be amortized over the life of the project, defined as 30 years, added to the operational emissions, and compared to the applicable interim GHG significance threshold tier."

As noted above, the SCAQMD's guidance uses a tiered approach rather than a single numerical emissions threshold. If a project's GHG emissions "fail" the non-significance of a given tier, then one goes to the next one. The tiers are summarized very briefly as follows.

> **Tier 1 – Applicable Exemptions.** This tier no longer applies, so it is necessary to consider the next tier.
>
> **Tier 2 – Emissions Within Budgets of Regional Plans.** GHG emissions are less than significant if the project is consistent with a local GHG reduction plan; however, Culver City has not adopted a local GHG reduction plan that meets all the following requirements classified in Tier 2: comply with AB32 GHG reduction goals; include emissions estimates agreed upon by either CARB or the AQMD, have been analyzed under CEQA, have a certified Final CEQA document; include a GHG emissions inventory tracking mechanism; and include a process to monitor progress in achieving GHG emission reduction targets, and a commitment to remedy the excess emissions if GHG reduction goals are not met (enforcement). Thus, Tier 2 no longer applies, so it is necessary to consider the next tier.
>
> **Tier 3 – 90 Percent Capture Rate Emission Thresholds.** A 90 percent emission capture rate means that 90 percent of total emissions from all new or modified projects would be subject to CEQA analysis. As stated in the thresholds document, the 90 percent emission capture rate is appropriate to address long-term adverse impacts associated with global climate change, and would capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth. For Tier 3, the SCAQMD presents lead agencies with two options: option #1 – separate numerical thresholds for residential projects (3,500 tonnes CO_2e per year), commercial projects (1,400 tonnes CO_2e per year), and mixed use projects (3,000 tonnes CO_2e per year) and; option #2 – a single numerical threshold for all non-industrial projects of 3,000 tonnes CO_2e per year.[14]
>
> **Tiers 4 and 5.** These tiers are not relevant to the analysis and so will not be discussed.

Because the proposed project is considered commercial and non-industrial, the 1,400-tonne CO_2 per year SCAQMD threshold discussed for Tier 3 was selected as an appropriate numerical threshold.

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[14] South Coast Air Quality Management District. Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #15. September 28, 2010. Internet URL: http://www.aqmd.gov/ceqa/handbook/GHG/2010/sept28mtg/wkgp15minutes.pdf. Last accessed: December 20, 2012.

4.2 Methodology

This GHG analysis considers and compares the proposed nature center to the 2010 baseline condition, in which the school site is in operation.[15] Estimated GHG emissions from the project's on-site and off-site project activities were calculated using the California Emissions Estimator Model (CalEEMod). CalEEMod is a planning tool for estimating emissions related to land use projects. The model incorporates EMFAC2007 emission factors to estimate on-road vehicle emissions; and emission factors and assumptions from the CARB's OFFROAD2007 model to estimate off-road construction equipment emissions.[16] Model-predicted project emissions are compared with applicable thresholds to assess GHG impacts. Operational emissions are estimated using CalEEMod and take into account area emissions, such as space heating, from land uses and from the vehicle trips associated with the land uses.

4.3 Greenhouse Gas Impacts

Because of the persistence of GHG in the atmosphere, all the impacts addressed in this section are defined as long-term. The analysis included two types of GHG emission sources: direct sources and indirect sources.

The two main direct emission sources will be use of internal combustion (IC) engines and space heating. For this project, GHG emissions from IC engines would be emitted from off-road construction equipment such as loaders; and on-road vehicles (worker, vendor, and delivery trips). Natural gas would be used for space heating and domestic water heating.

Indirect GHG source emissions are those for which the project is responsible, but that occur off-site. For example, the solid waste that is distributed to landfills will decay and emit the GHGs CO_2 and CH_4. GHG are also emitted by combustion of fossil fuels necessary in generating and distributing electricity. Indirect source emissions are mainly operational-based, and originate from several sources: electricity for land use operations, water, and wastewater. Electricity is required for lighting and heating and ventilation. Also, energy, in the form of electricity, is required for water supply and distribution.

4.3.1 Direct Source Emissions

Direct source emissions comprise internal combustion (IC) engine exhaust from on-road vehicles, off-road vehicles, and off-road equipment. In this analysis, construction equipment, worker trips, vendor trips, and delivery trips were considered.

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15 Communication between Alioune Dioum, Project Manager, Los Angeles County Department of Public Works, Alhambra, CA to Kelly Hickler, Associate Project Manager, UltraSystems Environmental Inc., Irvine, CA. April 24, 2013.

16 *California Emissions Estimator Model User's Guide Version 2011.1.1*. Prepared by Environ International Corporation, Emeryville, California for South Coast Air Quality Management District, Diamond Bar, California (February, 2011).

Construction

The proposed project will include demolition, grading, paving, and erection of a 4,000-square-foot, one-story community building. Each construction phase involves the use of a different mix of construction equipment and therefore has its own distinct GHG emissions characteristics. Since detailed design information was not available at the time this document was prepared, construction-related emission estimates were based on the default construction scenario information in CalEEMod.[17] Estimates of the types and numbers of pieces of equipment anticipated in each phase of construction and development were based on equipment requirements of similar construction projects. GHG emissions will vary from day to day depending on the intensity and type of construction activity.

Project construction emissions were estimated using the construction module of CalEEMod. Construction of the proposed project was estimated to begin early 2014, and expected to last for 15 months. The construction equipment GHG emissions were modeled using CalEEMod and CalEEMod's default values for horsepower and load factors, which are from the CARB's OFFROAD2007 model.

Other Combustion Emissions

GHG emissions from space heating with natural gas were modeled with CalEEMod, assuming the "single family housing" land use, which most closely fits the description of the proposed project. The default factors for Title 24 natural gas standards were used.

4.3.2 Indirect Source Emissions

Construction

Assuming the air compressor used in the architectural coating phase of the proposed project is not electric-powered, there will be no indirect source emissions of GHG.

Other Indirect Emissions

Solid waste disposal into landfills creates CO_2 and CH_4 emissions over a span of years. The emissions from solid waste were calculated using CalEEMod, which models the GHG emissions based on the Intergovernmental Panel on Climate Change's (IPCC) methods for quantifying GHG emissions from solid waste.[18]

Calculation of indirect GHG emissions for water use was based on the electricity needed to supply and distribute water. The factors for electricity are based on Title 24, non-Title 24, and lighting standards from the California Energy Commission (CEC). CalEEMod assumes

17 *California Emissions Estimator Model (CalEEMod), Users Guide, Version 2011.1.1 Appendix D Default Tables*. Prepared by ENVIRON International Corporation, Emeryville, California, for the South Coast Air Quality Management District, Diamond Bar, California (February 2011).

18 IPCC, *2006 IPCC Guidelines for National Greenhouse Gas Inventories*, Volume 5 Waste, (2006).

defaults based on the project location, climate zone, and energy provider. All the default values were used.

Table 1, (Proposed Project vs. School Site: Utilities GHG Emissions) shows the indirect GHG emissions from electricity, water, natural gas, and solid waste consumption.

Table 1 – Proposed Project vs. School Site: Utilities GHG Emissions

Utility	GHG Emissions (tonnes/year)			
	CO_2	CH_4	N_2O	CO_2e
Proposed Project (2014)				
Electricity	10.75	0.00	0.00	10.82
Water	17.90	0.00	0.00	18.12
Natural Gas	4.62	0.00	0.00	4.65
Solid Waste	0.82	0.05	0.00	1.84
Totals	**34.09**	**0.05**	**0.00**	**35.43**
School Site (2010)				
Electricity	30.15	0.00	0.00	30.34
Water	5.27	0.01	0.00	5.68
Natural Gas	9.93	0.00	0.00	9.99
Solid Waste	3.96	0.23	0.00	8.87
Totals	**49.31**	**0.24**	**0.00**	**54.88**
Difference between Proposed Project (2014) and School Site (2010)				
Totals	**(15.22)**	**(0.19)**	**0.00**	**(19.45)**

-
Source: UltraSystems Environmental Inc. with CalEEMod (Version 2011.1.1)

A detailed breakdown of the results of the GHG emissions analysis can be found in **Table 2** (Proposed Project vs. School Site: Annual GHG Emissions, 2014 and Beyond).

Table 2 – Proposed Project vs. School Site: Annual GHG Emissions, 2014 and Beyond

Annual Emissions in 2014 (tonnes/year)					
Emission Source		**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Proposed Project (2014)					
Construction[a]		25.00	0.00	0.00	25.05
Operations	Area	0.00	0.00	0.00	0.00
	Energy	15.37	0.00	0.00	15.47
	Mobile	230.42	0.01	0.00	230.62
	Waste	0.82	0.05	0.00	1.84
	Water	17.90	0.00	0.00	18.12
	Totals	**289.51**	**0.06**	**0.00**	**291.10**
School Site (2010)					
Construction		N/A	N/A	N/A	N/A
Operations	Area	0.00	0.00	0.00	0.00
	Energy	40.08	0.00	0.00	40.33
	Mobile	225.07	0.01	0.00	225.36
	Waste	3.96	0.23	0.00	8.87
	Water	5.27	0.01	0.00	5.68
	Totals	**274.38**	**0.25**	**0.00**	**280.24**
Difference between Proposed Project (2014) and School Site (2010)					
	Totals	**15.13**	**(0.19)**	**0.00**	**10.86**
SCAQMD Interim CEQA GHG Significance Threshold					**1,400**
Significant (Yes or No)					**No**

Note: Proposed project is expected to be operational in late 2014.
[a] Amortized over 30 years per SCAQMD Interim CEQA GHG Significance Threshold.

Source: UltraSystems Environmental Inc. with CalEEMod (Version 2011.1.1)

Table 2 shows that the increase in maximum annual emissions from the proposed project compared to the school site (2010) would be 10.86 tonnes of CO_2e, which is less than the annual 1,400-tonne CO_2 SCAQMD interim threshold for commercial projects; therefore, GHG emissions from the proposed project will be less than significant.

5.0 MITIGATION MEASURES

No mitigation measures will be necessary because GHG emissions from the proposed project will be less than significant.

APPENDIX

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APPENDIX A

CALEEMOD MODELING OUTPUT

5892 Stoneview Nature Center ISMND

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Parking Lot	61	Space
City Park	4.36	Acre
Library	4	1000sqft

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Utility Company** Southern California Edison

Climate Zone 8 **Precipitation Freq (Days)** 33

1.3 User Entered Comments

Project Characteristics - LA-South Coast
Climate Zone 8
Operational Year 2014
SCE

Land Use - Total Lot Acreage: 5 ac
City Park/Nature Ctr: 4.36 ac (3,500 sf wood deck)
Building (Library Land Use): 4,000 sf
Parking: 0.55 ac

Construction Phase - Demo: 8/1/13 (22 days)
Site Prep: 8/31/13 (5 days)
Grading: 9/7/13 (9 days)
Building: 9/20/13 (250 days)
Paving: 9/5/14 (20 days)
Architectural Coating: 10/3/14 (20 days)

Off-road Equipment -

Off-road Equipment - Other Contruction Equipment = Pile Driver (1x; 7 hrs/day; 350 hp; 0.33 load factor)

Off-road Equipment -

Demolition - Demolish approximately 15,000 sqft one-story buildings

Grading - 4.5 Acres disturbed per day during Grading
Assume balanced cut/fill

Architectural Coating - Frazee Paints:
Interior VOC - 15.3 g/L
Exterior VOC - 21.7 g/L

Area Coating - Frazee Paints:
Interior VOC - 15.3 g/L
Exterior VOC - 21.7 g/L

Energy Use - Default energy use values of Library Land Use Type

Land Use Change - Initial grass area 0.52 acre to final grass area 3.84 acre

Sequestration - Approximately 100 new miscellaneous trees.

Solid Waste - Solid Waste Default changed to Library Land Use Type

Construction Off-road Equipment Mitigation - Replace Ground Cover of Area Disturbed (32% Average - SCAQMD CEQA Handbook p. 11-15)
Water Exposed Area Twice a Day (55%)

Off-road Equipment - 2x Rubber Tired Dozers
3x Tractors/Loaders/Backhoes

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	0.36	2.67	1.70	0.00	0.09	0.15	0.24	0.03	0.15	0.18	0.00	290.91	290.91	0.03	0.00	291.52
2014	0.56	3.74	2.59	0.01	0.02	0.23	0.25	0.00	0.23	0.23	0.00	459.05	459.05	0.04	0.00	459.97
Total	**0.92**	**6.41**	**4.29**	**0.01**	**0.11**	**0.38**	**0.49**	**0.03**	**0.38**	**0.41**	**0.00**	**749.96**	**749.96**	**0.07**	**0.00**	**751.49**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	0.36	2.67	1.70	0.00	0.05	0.15	0.20	0.01	0.15	0.16	0.00	290.91	290.91	0.03	0.00	291.52
2014	0.56	3.74	2.59	0.01	0.02	0.23	0.25	0.00	0.23	0.23	0.00	459.05	459.05	0.04	0.00	459.97
Total	**0.92**	**6.41**	**4.29**	**0.01**	**0.07**	**0.38**	**0.45**	**0.01**	**0.38**	**0.39**	**0.00**	**749.96**	**749.96**	**0.07**	**0.00**	**751.49**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.10	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	15.37	15.37	0.00	0.00	15.47
Mobile	0.17	0.40	1.62	0.00	0.24	0.02	0.26	0.01	0.02	0.03	0.00	230.42	230.42	0.01	0.00	230.62
Waste						0.00	0.00		0.00	0.00	0.82	0.00	0.82	0.05	0.00	1.84
Water						0.00	0.00		0.00	0.00	0.00	17.90	17.90	0.00	0.00	18.12
Total	**0.27**	**0.40**	**1.62**	**0.00**	**0.24**	**0.02**	**0.26**	**0.01**	**0.02**	**0.03**	**0.82**	**263.69**	**264.51**	**0.06**	**0.00**	**266.05**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.10	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	15.37	15.37	0.00	0.00	15.47
Mobile	0.17	0.40	1.62	0.00	0.24	0.02	0.26	0.01	0.02	0.03	0.00	230.42	230.42	0.01	0.00	230.62
Waste						0.00	0.00		0.00	0.00	0.82	0.00	0.82	0.05	0.00	1.84
Water						0.00	0.00		0.00	0.00	0.00	17.90	17.90	0.00	0.00	18.12
Total	**0.27**	**0.40**	**1.62**	**0.00**	**0.24**	**0.02**	**0.26**	**0.01**	**0.02**	**0.03**	**0.82**	**263.69**	**264.51**	**0.06**	**0.00**	**266.05**

2.3 Vegetation

Vegetation

	ROG	NOx	CO	SO2	CO2e
Category	tons				MT
New Trees					70.80
Vegetation Land Change					20.58
Total					**91.38**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

3.2 Demolition - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.10	0.78	0.47	0.00		0.04	0.04		0.04	0.04	0.00	74.93	74.93	0.01	0.00	75.10
Total	**0.10**	**0.78**	**0.47**	**0.00**	**0.01**	**0.04**	**0.05**	**0.00**	**0.04**	**0.04**	**0.00**	**74.93**	**74.93**	**0.01**	**0.00**	**75.10**

3.2 Demolition - 2013

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.02	0.01	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	2.59	2.59	0.00	0.00	2.59
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82	1.82	0.00	0.00	1.83
Total	**0.00**	**0.02**	**0.02**	**0.00**	**0.02**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**4.41**	**4.41**	**0.00**	**0.00**	**4.42**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.10	0.78	0.47	0.00		0.04	0.04		0.04	0.04	0.00	74.93	74.93	0.01	0.00	75.10
Total	**0.10**	**0.78**	**0.47**	**0.00**	**0.00**	**0.04**	**0.04**	**0.00**	**0.04**	**0.04**	**0.00**	**74.93**	**74.93**	**0.01**	**0.00**	**75.10**

3.2 Demolition - 2013

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.02	0.01	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	2.59	2.59	0.00	0.00	2.59
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82	1.82	0.00	0.00	1.83
Total	**0.00**	**0.02**	**0.02**	**0.00**	**0.02**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**4.41**	**4.41**	**0.00**	**0.00**	**4.42**

3.3 Site Preparation - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.03	0.00	0.03	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.02	0.14	0.08	0.00		0.01	0.01		0.01	0.01	0.00	12.40	12.40	0.00	0.00	12.43
Total	**0.02**	**0.14**	**0.08**	**0.00**	**0.03**	**0.01**	**0.04**	**0.02**	**0.01**	**0.03**	**0.00**	**12.40**	**12.40**	**0.00**	**0.00**	**12.43**

3.3 Site Preparation - 2013

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.36	0.00	0.00	0.36
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.36**	**0.36**	**0.00**	**0.00**	**0.36**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.02	0.14	0.08	0.00		0.01	0.01		0.01	0.01	0.00	12.40	12.40	0.00	0.00	12.43
Total	**0.02**	**0.14**	**0.08**	**0.00**	**0.01**	**0.01**	**0.02**	**0.01**	**0.01**	**0.02**	**0.00**	**12.40**	**12.40**	**0.00**	**0.00**	**12.43**

3.3 Site Preparation - 2013

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.36	0.00	0.00	0.36
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.36**	**0.36**	**0.00**	**0.00**	**0.36**

3.4 Grading - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.03	0.00	0.03	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.22	0.14	0.00		0.01	0.01		0.01	0.01	0.00	21.39	21.39	0.00	0.00	21.43
Total	**0.03**	**0.22**	**0.14**	**0.00**	**0.03**	**0.01**	**0.04**	**0.02**	**0.01**	**0.03**	**0.00**	**21.39**	**21.39**	**0.00**	**0.00**	**21.43**

3.4 Grading - 2013

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.75	0.00	0.00	0.75
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.75**	**0.75**	**0.00**	**0.00**	**0.75**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.22	0.14	0.00		0.01	0.01		0.01	0.01	0.00	21.39	21.39	0.00	0.00	21.43
Total	**0.03**	**0.22**	**0.14**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**	**0.00**	**21.39**	**21.39**	**0.00**	**0.00**	**21.43**

3.4 Grading - 2013

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.75	0.00	0.00	0.75
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.75**	**0.75**	**0.00**	**0.00**	**0.75**

3.5 Building Construction - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.21	1.49	0.93	0.00		0.09	0.09		0.09	0.09	0.00	167.26	167.26	0.02	0.00	167.62
Total	**0.21**	**1.49**	**0.93**	**0.00**		**0.09**	**0.09**		**0.09**	**0.09**	**0.00**	**167.26**	**167.26**	**0.02**	**0.00**	**167.62**

3.5 Building Construction - 2013

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.57	4.57	0.00	0.00	4.57
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.84	4.84	0.00	0.00	4.85
Total	**0.00**	**0.03**	**0.05**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**9.41**	**9.41**	**0.00**	**0.00**	**9.42**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.21	1.49	0.93	0.00		0.09	0.09		0.09	0.09	0.00	167.26	167.26	0.02	0.00	167.62
Total	**0.21**	**1.49**	**0.93**	**0.00**		**0.09**	**0.09**		**0.09**	**0.09**	**0.00**	**167.26**	**167.26**	**0.02**	**0.00**	**167.62**

3.5 Building Construction - 2013

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.57	4.57	0.00	0.00	4.57
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.84	4.84	0.00	0.00	4.85
Total	**0.00**	**0.03**	**0.05**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**9.41**	**9.41**	**0.00**	**0.00**	**9.42**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.47	3.31	2.23	0.00		0.19	0.19		0.19	0.19	0.00	405.55	405.55	0.04	0.00	406.34
Total	**0.47**	**3.31**	**2.23**	**0.00**		**0.19**	**0.19**		**0.19**	**0.19**	**0.00**	**405.55**	**405.55**	**0.04**	**0.00**	**406.34**

3.5 Building Construction - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.07	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	11.10	11.10	0.00	0.00	11.10
Worker	0.01	0.01	0.07	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	11.55	11.55	0.00	0.00	11.56
Total	**0.02**	**0.08**	**0.12**	**0.00**	**0.01**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**22.65**	**22.65**	**0.00**	**0.00**	**22.66**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.47	3.31	2.23	0.00		0.19	0.19		0.19	0.19	0.00	405.55	405.55	0.04	0.00	406.34
Total	**0.47**	**3.31**	**2.23**	**0.00**		**0.19**	**0.19**		**0.19**	**0.19**	**0.00**	**405.55**	**405.55**	**0.04**	**0.00**	**406.34**

3.5 Building Construction - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.07	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	11.10	11.10	0.00	0.00	11.10
Worker	0.01	0.01	0.07	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	11.55	11.55	0.00	0.00	11.56
Total	**0.02**	**0.08**	**0.12**	**0.00**	**0.01**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**22.65**	**22.65**	**0.00**	**0.00**	**22.66**

3.6 Paving - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.32	0.21	0.00		0.03	0.03		0.03	0.03	0.00	26.46	26.46	0.00	0.00	26.55
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.21**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**26.46**	**26.46**	**0.00**	**0.00**	**26.55**

3.6 Paving - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.63	1.63	0.00	0.00	1.63
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.63**	**1.63**	**0.00**	**0.00**	**1.63**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.32	0.21	0.00		0.03	0.03		0.03	0.03	0.00	26.46	26.46	0.00	0.00	26.55
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.21**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**26.46**	**26.46**	**0.00**	**0.00**	**26.55**

3.6 Paving - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.63	1.63	0.00	0.00	1.63
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.63**	**1.63**	**0.00**	**0.00**	**1.63**

3.7 Architectural Coating - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.02					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.55	2.55	0.00	0.00	2.56
Total	**0.02**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.55**	**2.55**	**0.00**	**0.00**	**2.56**

3.7 Architectural Coating - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.22	0.00	0.00	0.22
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.22**	**0.22**	**0.00**	**0.00**	**0.22**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.02					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.55	2.55	0.00	0.00	2.56
Total	**0.02**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.55**	**2.55**	**0.00**	**0.00**	**2.56**

3.7 Architectural Coating - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.22	0.00	0.00	0.22
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.22**	**0.22**	**0.00**	**0.00**	**0.22**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.17	0.40	1.62	0.00	0.24	0.02	0.26	0.01	0.02	0.03	0.00	230.42	230.42	0.01	0.00	230.62
Unmitigated	0.17	0.40	1.62	0.00	0.24	0.02	0.26	0.01	0.02	0.03	0.00	230.42	230.42	0.01	0.00	230.62
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	6.93	6.93	6.93	19,775	19,775
Parking Lot	0.00	0.00	0.00		
Library	224.96	186.20	101.96	433,963	433,963
Total	231.89	193.13	108.89	453,738	453,738

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
City Park	8.90	13.30	7.40	33.00	48.00	19.00
Parking Lot	8.90	13.30	7.40	0.00	0.00	0.00
Library	8.90	13.30	7.40	52.00	43.00	5.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	10.75	10.75	0.00	0.00	10.82
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	10.75	10.75	0.00	0.00	10.82
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	4.62	4.62	0.00	0.00	4.65
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	4.62	4.62	0.00	0.00	4.65
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Library	86560	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	4.62	4.62	0.00	0.00	4.65
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**4.62**	**4.62**	**0.00**	**0.00**	**4.65**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Library	86560	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	4.62	4.62	0.00	0.00	4.65
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**4.62**	**4.62**	**0.00**	**0.00**	**4.65**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
City Park	0					0.00	0.00	0.00	0.00
Library	36960					10.75	0.00	0.00	10.82
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**10.75**	**0.00**	**0.00**	**10.82**

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
City Park	0					0.00	0.00	0.00	0.00
Library	36960					10.75	0.00	0.00	10.82
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**10.75**	**0.00**	**0.00**	**10.82**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.10	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.10	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.10					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.10**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.10					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.10**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					17.90	0.00	0.00	18.12
Unmitigated					17.90	0.00	0.00	18.12
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

<u>Unmitigated</u>

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
City Park	0 / 5.19486					16.79	0.00	0.00	16.89
Library	0.125156 / 0.195756					1.11	0.00	0.00	1.22
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Total						**17.90**	**0.00**	**0.00**	**18.11**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
City Park	0 / 5.19486					16.79	0.00	0.00	16.89
Library	0.125156 / 0.195756					1.11	0.00	0.00	1.22
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Total						**17.90**	**0.00**	**0.00**	**18.11**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					0.82	0.05	0.00	1.84
Unmitigated					0.82	0.05	0.00	1.84
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
City Park	0.37					0.08	0.00	0.00	0.17
Library	3.68					0.75	0.04	0.00	1.67
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**0.83**	**0.04**	**0.00**	**1.84**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
City Park	0.37					0.08	0.00	0.00	0.17
Library	3.68					0.75	0.04	0.00	1.67
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**0.83**	**0.04**	**0.00**	**1.84**

9.0 Vegetation

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons				MT			
Unmitigated					91.38	0.00	0.00	91.38
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

9.1 Vegetation Land Change

Vegetation Type

	Initial/Final	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	Acres	tons				MT			
Cropland	0.52 / 3.84					20.58	0.00	0.00	20.58
Total						**20.58**	**0.00**	**0.00**	**20.58**

9.1 Net New Trees

Species Class

	Number of Trees	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
		tons				MT			
Miscellaneous	100					70.80	0.00	0.00	70.80
Total						**70.80**	**0.00**	**0.00**	**70.80**

5892 Stoneview Nature Center ISMND - PREVIOUS LAND USE

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Parking Lot	61	Space
Elementary School	15	1000sqft

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	8	**Precipitation Freq (Days)**	33		

1.3 User Entered Comments

Project Characteristics - LA-South Coast
Climate Zone 8
Operational Year 2010
SCE

Land Use - Total Lot Acreage: 5 ac
Elemtary School: 4.45 ac (15,000 sf bldg)
Parking: 0.55 ac

Construction Phase - Demo: 8/1/13 (22 days)
Site Prep: 8/31/13 (5 days)
Grading: 9/7/13 (9 days)
Building: 9/20/13 (250 days)
Paving: 9/5/14 (20 days)
Architectural Coating: 10/3/14 (20 days)

Off-road Equipment - 1x Air Compressor

Off-road Equipment - 1x Crane
3x Forklifts
1x Generator Set
Other Contruction Equipment = Pile Driver (1x; 7 hrs/day; 350 hp; 0.33 load factor)
1x Tractor/L/B
1x Welder

Off-road Equipment - 2x Pavers
2x Paving Equipment
2x Rollers

Demolition - Demolish approximately 15,000 sqft one-story buildings

Grading - 4.5 Acres disturbed per day during Grading
Assume balanced cut/fill

Architectural Coating - Frazee Paints:
Interior VOC - 15.3 g/L
Exterior VOC - 21.7 g/L

Area Coating - Frazee Paints:
Interior VOC - 15.3 g/L
Exterior VOC - 21.7 g/L

Energy Use - Default energy use values of Library Land Use Type

Land Use Change - Initial grass area 0.52 acre to final grass area 3.84 acre

Sequestration - Approximately 100 new miscellaneous trees.

Solid Waste - Solid Waste Default changed to Library Land Use Type

Construction Off-road Equipment Mitigation - Replace Ground Cover of Area Disturbed (32% Average - SCAQMD CEQA Handbook p. 11-15)
Water Exposed Area Twice a Day (55%)

Off-road Equipment - 2x Rubber Tired Dozers
3x Tractors/Loaders/Backhoes

Off-road Equipment - 1x Concrete Saw
3x Excavators
2x Rubber Tired Dozers

Off-road Equipment - 1x Excavator
1x Grader
1x Rubber Tired Dozer
3x Tractors/Loaders/Backhoes

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	0.88	5.99	3.75	0.01	0.13	0.39	0.52	0.04	0.39	0.43	0.00	565.81	565.81	0.07	0.00	567.31
2012	0.10	0.41	0.26	0.00	0.00	0.03	0.04	0.00	0.03	0.03	0.00	33.95	33.95	0.01	0.00	34.06
Total	**0.98**	**6.40**	**4.01**	**0.01**	**0.13**	**0.42**	**0.56**	**0.04**	**0.42**	**0.46**	**0.00**	**599.76**	**599.76**	**0.08**	**0.00**	**601.37**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	0.88	5.99	3.75	0.01	0.07	0.39	0.46	0.01	0.39	0.40	0.00	565.81	565.81	0.07	0.00	567.31
2012	0.10	0.41	0.26	0.00	0.00	0.03	0.04	0.00	0.03	0.03	0.00	33.95	33.95	0.01	0.00	34.06
Total	**0.98**	**6.40**	**4.01**	**0.01**	**0.07**	**0.42**	**0.50**	**0.01**	**0.42**	**0.43**	**0.00**	**599.76**	**599.76**	**0.08**	**0.00**	**601.37**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.15	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	40.08	40.08	0.00	0.00	40.33
Mobile	0.20	0.48	1.99	0.00	0.23	0.02	0.25	0.01	0.02	0.03	0.00	225.07	225.07	0.01	0.00	225.36
Waste						0.00	0.00		0.00	0.00	3.96	0.00	3.96	0.23	0.00	8.87
Water						0.00	0.00		0.00	0.00	0.00	5.27	5.27	0.01	0.00	5.68
Total	**0.35**	**0.49**	**2.00**	**0.00**	**0.23**	**0.02**	**0.25**	**0.01**	**0.02**	**0.03**	**3.96**	**270.42**	**274.38**	**0.25**	**0.00**	**280.24**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.15	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	40.08	40.08	0.00	0.00	40.33
Mobile	0.20	0.48	1.99	0.00	0.23	0.02	0.25	0.01	0.02	0.03	0.00	225.07	225.07	0.01	0.00	225.36
Waste						0.00	0.00		0.00	0.00	3.96	0.00	3.96	0.23	0.00	8.87
Water						0.00	0.00		0.00	0.00	0.00	5.27	5.27	0.01	0.00	5.68
Total	**0.35**	**0.49**	**2.00**	**0.00**	**0.23**	**0.02**	**0.25**	**0.01**	**0.02**	**0.03**	**3.96**	**270.42**	**274.38**	**0.25**	**0.00**	**280.24**

2.3 Vegetation

Vegetation

	ROG	NOx	CO	SO2	CO2e
Category	tons				MT
New Trees					70.80
Vegetation Land Change					20.58
Total					**91.38**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

3.2 Demolition - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.10	0.80	0.46	0.00		0.04	0.04		0.04	0.04	0.00	68.12	68.12	0.01	0.00	68.29
Total	**0.10**	**0.80**	**0.46**	**0.00**	**0.01**	**0.04**	**0.05**	**0.00**	**0.04**	**0.04**	**0.00**	**68.12**	**68.12**	**0.01**	**0.00**	**68.29**

3.2 Demolition - 2011

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.02	0.01	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	2.57	2.57	0.00	0.00	2.57
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.72	1.72	0.00	0.00	1.73
Total	**0.00**	**0.02**	**0.02**	**0.00**	**0.01**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**4.29**	**4.29**	**0.00**	**0.00**	**4.30**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.10	0.80	0.46	0.00		0.04	0.04		0.04	0.04	0.00	68.12	68.12	0.01	0.00	68.29
Total	**0.10**	**0.80**	**0.46**	**0.00**	**0.00**	**0.04**	**0.04**	**0.00**	**0.04**	**0.04**	**0.00**	**68.12**	**68.12**	**0.01**	**0.00**	**68.29**

3.2 Demolition - 2011

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.02	0.01	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	2.57	2.57	0.00	0.00	2.57
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.72	1.72	0.00	0.00	1.73
Total	**0.00**	**0.02**	**0.02**	**0.00**	**0.01**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**4.29**	**4.29**	**0.00**	**0.00**	**4.30**

3.3 Site Preparation - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.05	0.00	0.05	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.22	0.13	0.00		0.01	0.01		0.01	0.01	0.00	18.13	18.13	0.00	0.00	18.18
Total	**0.03**	**0.22**	**0.13**	**0.00**	**0.05**	**0.01**	**0.06**	**0.02**	**0.01**	**0.03**	**0.00**	**18.13**	**18.13**	**0.00**	**0.00**	**18.18**

3.3 Site Preparation - 2011

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.52	0.00	0.00	0.52
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.52**	**0.52**	**0.00**	**0.00**	**0.52**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.22	0.13	0.00		0.01	0.01		0.01	0.01	0.00	18.13	18.13	0.00	0.00	18.18
Total	**0.03**	**0.22**	**0.13**	**0.00**	**0.01**	**0.01**	**0.02**	**0.01**	**0.01**	**0.02**	**0.00**	**18.13**	**18.13**	**0.00**	**0.00**	**18.18**

3.3 Site Preparation - 2011

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.52	0.00	0.00	0.52
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.52**	**0.52**	**0.00**	**0.00**	**0.52**

3.4 Grading - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.03	0.00	0.03	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.22	0.13	0.00		0.01	0.01		0.01	0.01	0.00	19.01	19.01	0.00	0.00	19.06
Total	**0.03**	**0.22**	**0.13**	**0.00**	**0.03**	**0.01**	**0.04**	**0.01**	**0.01**	**0.02**	**0.00**	**19.01**	**19.01**	**0.00**	**0.00**	**19.06**

3.4 Grading - 2011

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.69	0.00	0.00	0.69
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.69**	**0.69**	**0.00**	**0.00**	**0.69**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.22	0.13	0.00		0.01	0.01		0.01	0.01	0.00	19.01	19.01	0.00	0.00	19.06
Total	**0.03**	**0.22**	**0.13**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**	**0.00**	**19.01**	**19.01**	**0.00**	**0.00**	**19.06**

3.4 Grading - 2011

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.69	0.00	0.00	0.69
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.69**	**0.69**	**0.00**	**0.00**	**0.69**

3.5 Building Construction - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.69	4.56	2.73	0.00		0.32	0.32		0.32	0.32	0.00	415.93	415.93	0.06	0.00	417.11
Total	**0.69**	**4.56**	**2.73**	**0.00**		**0.32**	**0.32**		**0.32**	**0.32**	**0.00**	**415.93**	**415.93**	**0.06**	**0.00**	**417.11**

3.5 Building Construction - 2011

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.14	0.10	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.00	16.94	16.94	0.00	0.00	16.96
Worker	0.02	0.02	0.17	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	22.17	22.17	0.00	0.00	22.20
Total	**0.03**	**0.16**	**0.27**	**0.00**	**0.04**	**0.01**	**0.04**	**0.00**	**0.01**	**0.01**	**0.00**	**39.11**	**39.11**	**0.00**	**0.00**	**39.16**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.69	4.56	2.73	0.00		0.32	0.32		0.32	0.32	0.00	415.93	415.93	0.06	0.00	417.11
Total	**0.69**	**4.56**	**2.73**	**0.00**		**0.32**	**0.32**		**0.32**	**0.32**	**0.00**	**415.93**	**415.93**	**0.06**	**0.00**	**417.11**

3.5 Building Construction - 2011

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.14	0.10	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.00	16.94	16.94	0.00	0.00	16.96
Worker	0.02	0.02	0.17	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	22.17	22.17	0.00	0.00	22.20
Total	**0.03**	**0.16**	**0.27**	**0.00**	**0.04**	**0.01**	**0.04**	**0.00**	**0.01**	**0.01**	**0.00**	**39.11**	**39.11**	**0.00**	**0.00**	**39.16**

3.5 Building Construction - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.01	0.06	0.04	0.00		0.00	0.00		0.00	0.00	0.00	5.50	5.50	0.00	0.00	5.51
Total	**0.01**	**0.06**	**0.04**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**5.50**	**5.50**	**0.00**	**0.00**	**5.51**

3.5 Building Construction - 2012

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.22	0.00	0.00	0.22
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.29	0.00	0.00	0.29
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.51**	**0.51**	**0.00**	**0.00**	**0.51**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.01	0.06	0.04	0.00		0.00	0.00		0.00	0.00	0.00	5.50	5.50	0.00	0.00	5.51
Total	**0.01**	**0.06**	**0.04**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**5.50**	**5.50**	**0.00**	**0.00**	**5.51**

3.5 Building Construction - 2012

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.22	0.00	0.00	0.22
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.29	0.00	0.00	0.29
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.51**	**0.51**	**0.00**	**0.00**	**0.51**

3.6 Paving - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.32	0.19	0.00		0.03	0.03		0.03	0.03	0.00	23.82	23.82	0.00	0.00	23.91
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.19**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**23.82**	**23.82**	**0.00**	**0.00**	**23.91**

3.6 Paving - 2012

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52	1.52	0.00	0.00	1.52
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.52**	**1.52**	**0.00**	**0.00**	**1.52**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.32	0.19	0.00		0.03	0.03		0.03	0.03	0.00	23.82	23.82	0.00	0.00	23.91
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.19**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**23.82**	**23.82**	**0.00**	**0.00**	**23.91**

3.6 Paving - 2012

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52	1.52	0.00	0.00	1.52
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.52**	**1.52**	**0.00**	**0.00**	**1.52**

3.7 Architectural Coating - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.03					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.30	2.30	0.00	0.00	2.30
Total	**0.03**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.30**	**2.30**	**0.00**	**0.00**	**2.30**

3.7 Architectural Coating - 2012

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.30	0.00	0.00	0.30
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.30**	**0.30**	**0.00**	**0.00**	**0.30**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.03					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.30	2.30	0.00	0.00	2.30
Total	**0.03**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.30**	**2.30**	**0.00**	**0.00**	**2.30**

3.7 Architectural Coating - 2012

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.30	0.00	0.00	0.30
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.30**	**0.30**	**0.00**	**0.00**	**0.30**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.20	0.48	1.99	0.00	0.23	0.02	0.25	0.01	0.02	0.03	0.00	225.07	225.07	0.01	0.00	225.36
Unmitigated	0.20	0.48	1.99	0.00	0.23	0.02	0.25	0.01	0.02	0.03	0.00	225.07	225.07	0.01	0.00	225.36
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	231.45	0.00	0.00	423,490	423,490
Parking Lot	0.00	0.00	0.00		
Total	231.45	0.00	0.00	423,490	423,490

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Elementary School	8.90	13.30	7.40	65.00	30.00	5.00
Parking Lot	8.90	13.30	7.40	0.00	0.00	0.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	30.15	30.15	0.00	0.00	30.34
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	30.15	30.15	0.00	0.00	30.34
NaturalGas Mitigated	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	9.93	9.93	0.00	0.00	9.99
NaturalGas Unmitigated	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	9.93	9.93	0.00	0.00	9.99
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Elementary School	186150	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	9.93	9.93	0.00	0.00	9.99
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.01**	**0.01**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**9.93**	**9.93**	**0.00**	**0.00**	**9.99**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Elementary School	186150	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	9.93	9.93	0.00	0.00	9.99
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.01**	**0.01**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**9.93**	**9.93**	**0.00**	**0.00**	**9.99**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Elementary School	103650					30.15	0.00	0.00	30.34
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**30.15**	**0.00**	**0.00**	**30.34**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Elementary School	103650					30.15	0.00	0.00	30.34
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**30.15**	**0.00**	**0.00**	**30.34**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.15	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.15	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.14					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.14**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.14					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.14**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					5.27	0.01	0.00	5.68
Unmitigated					5.27	0.01	0.00	5.68
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

<u>Unmitigated</u>

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Elementary School	0.434954 / 1.11845					5.27	0.01	0.00	5.68
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Total						**5.27**	**0.01**	**0.00**	**5.68**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Elementary School	0.434954 / 1.11845					5.27	0.01	0.00	5.68
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Total						**5.27**	**0.01**	**0.00**	**5.68**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					3.96	0.23	0.00	8.87
Unmitigated					3.96	0.23	0.00	8.87
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Elementary School	19.5					3.96	0.23	0.00	8.87
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**3.96**	**0.23**	**0.00**	**8.87**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Elementary School	19.5					3.96	0.23	0.00	8.87
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**3.96**	**0.23**	**0.00**	**8.87**

9.0 Vegetation

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons				MT			
Unmitigated					91.38	0.00	0.00	91.38
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

9.1 Vegetation Land Change

Vegetation Type

	Initial/Final	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	Acres	tons				MT			
Cropland	0.52 / 3.84					20.58	0.00	0.00	20.58
Total						**20.58**	**0.00**	**0.00**	**20.58**

9.1 Net New Trees

Species Class

	Number of Trees	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
		tons				MT			
Miscellaneous	100					70.80	0.00	0.00	70.80
Total						**70.80**	**0.00**	**0.00**	**70.80**

APPENDIX E

ASBESTOS SAMPLING & LEAD TESTING TECHNICAL REPORT

Altec Testing & Engineering, Inc.

-REPORT-
ASBESTOS SAMPLING, LEAD TESTING & UNIVERSAL WASTES/OTHER REGULATED MATERIALS REVIEW

For
Multiple Structures
OHR Eliyahu Academy
5950 Stoneview Drive
Culver City, California

Requested by:

Mr. Dan Herlihy
UltraSystems Environmental, Inc.
16431 Scientific Way
Irvine, California 92618
(949) 788-4900 Telephone

Prepared by:

Mr. Jay Yowell
Altec Testing & Engineering, Inc.
6035 Fremont Street
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(951) 352-6510 Telephone

Sampling Date: May 16, 2013
Altec CP No. 603-2013060

Jay A. Yowell
Certified Asbestos Consultant #97-2295
Lead Sampling Technician #7202

Lynn Laborde
Certified Asbestos Consultant #92-0495
Lead Inspector/Risk Assessor #7203
Lead Project Monitor #7203

TABLE OF CONTENTS

1.0 INTRODUCTION

Altec Testing & Engineering, Inc. (Altec) performed an asbestos survey, limited testing for lead paint and a universal waste/regulated materials review at multiple structures of the OHR Eliyahu Academy located at 5950 Stoneview Drive in Culver City, California. The work was performed on May 16, 2013. The specific scope of work structures can be found in Figure 1 which provided as an appendix to this report.

The objective of this work was as follows:

1. Perform bulk building material sampling and obtain laboratory analysis for asbestos by Polarized Light Microscopy (PLM)
2. Perform lead paint/coating testing using an x-ray fluorescence (XRF) analyzer
3. Review the presence of universal wastes and other regulated materials

This work was performed exclusively within the scope of work areas in the identified building(s) in order to determine if abatement/mitigation activities are needed prior to the planned demolition/ renovation work.

This work was performed to meet demolition/renovation requirements to comply with regulations enforced by the South Coast Air Quality Management District (SCAQMD), California Occupational Safety and Health Administration (Cal/OSHA) and California Department of Toxic Substance Control (DTSC). The intent was to identify the quantities of regulated materials that will require special removal and disposal procedures prior to the demolition/renovation efforts. Altec did not perform any environmental site assessments or environmental compliance audits for the property.

The scope of work areas included in sampling/testing were as follows:

- Building 1 - Auditorium/Cafeteria
- Building 2 - Restrooms
- Building 3 - Classrooms
- Building 4 - Classrooms
- Building 5 - Classrooms
- Building 6 - Classrooms
- Building 7 - Classrooms
- Building 8 - Administration

2.0 ASBESTOS SAMPLING

2.1 Overview

Asbestos is a naturally-occurring mineral fiber that has been used in the manufacture of many different type of building materials. The inhalation of airborne asbestos fibers can cause serious health problems including cancer. The Environmental Protection Agency (EPA) and the Occupational Health and Safety Administration (OSHA) have enacted several laws to protect people from exposure to airborne asbestos fibers. An asbestos survey is the first step in the complicated process of identifying asbestos-containing materials (ACMs) in a building and monitoring the condition as well as its removal and disposal as needed.

2.2 Scope of Work

A survey for asbestos-containing materials (ACM) was performed for the referenced building(s). Altec representative(s) walked the structure and collected representative samples of all accessible suspect ACMs in the scope of work areas. This inspection was conducted as a complete facility survey but due to the inaccessibility of some areas and the existence of wall cavities, hidden suspect ACMs may exist that will only be accessible through demolition. Hidden suspect ACMs may include, but are not limited to: thermal system insulation within wall cavities and plenums.

The objective of this survey was to collect representative samples of suspect ACMs, to assess the condition of the suspect ACMs and to quantify the observed materials. The assessment, sampling and subsequent laboratory sample analysis was conducted in support of the planned demolition/renovation work. Suspect ACMs that were in the scope-of-work areas (as identified by the client) were assessed, quantified, sampled and submitted for analysis for the determination of asbestos content by Polarized Light Microscopy (PLM) using the Environmental Protection Agency (EPA) Methods EPA/600/R-93/116 and EPA/600/M4-82-020.

2.3 Inspectors Qualifications

Jay A. Yowell performed the asbestos survey portion of the work. Jay A. Yowell is a State of California Department of Occupational Safety and Health (DOSH) Certified Asbestos Consultant (CAC #97-2295) and holds current AHERA certifications in: Asbestos Building Inspection; Management Planning; Project Design; and Abatement Supervision.

Personnel certifications are provided as an appendix to this report.

2.4 Sample Summary

Altec collected representative samples of suspect ACMs including but not limited to floor coverings and associated adhesives, drywall/joint compound or interior plaster, acoustic ceiling textures, acoustic ceiling tiles, baseboard and associated adhesives, window putty, roof coverings, penetration tar and sealants, exterior stucco, thermal system insulation and other insulation materials.

The quantification of the suspect ACMs are estimates made at the time of sampling and should be verified by the contractors bidding the abatement portion of the project to determine exact quantities and the accessibility of the identified ACMs.

The following is a summary of the materials that were determined to be asbestos containing. An entire list of all materials sampled can be found in the sample summary sheets which are provided as an appendix to this report.

Table 1 - Positive Asbestos-Containing Materials

Structure	**Sample Nos.**	**Material Description**	**Location**	**Qty**	**Lab Results**
Building 1	1-6	Brown 9" VFT[1] and black mastic	Throughout dining area	2,400 square feet	3-8% Chrysotile
Building 1	7-12	Tan 9" VFT and black mastic	Throughout kitchen area	600 square feet	4-6% Chrysotile
Building 1	23, 25, 27	Black mastic (below non asbestos 12" VFT)	Area adjacent to stage	50 square feet	2% Chrysotile
Building 1	35	White Thermal System Insulation (TSI) (elbow)	Above ceiling	10 Fittings	3% Chrysotile 5% Amosite 3% Crocidolite
Building 2	38	White TSI (elbow)	Above ceiling	6 Fittings	6% Chrysotile 3% Amosite
Building 3	43-48	Multiple Colored 9" VFT and black mastic	Throughout	1,800 square feet	4-7% Chrysotile
Building 4	52,53	Brown 9" VFT and black mastic	Throughout	1,800 square feet	3-8% Chrysotile
Building 5	61	White TSI (elbow)	Above ceiling	10 Fittings	3% Chrysotile 7% Amosite
Building 5	63-64	Brown 9" VFT and black mastic	Throughout	2,500 square feet	4-8% Chrysotile
Building 6	71-72	Brown 9" VFT and black mastic	Throughout	900 square feet	4-6% Chrysotile
Building 7	76-77	Brown 9" VFT and black mastic	Throughout	900 square feet	5-7% Chrysotile
Building 8	81-82	Brown 9" VFT and black mastic	Throughout	900 square feet	3-8% Chrysotile
Buildings 1-8	90, 94, 95	Window Glazing	Exterior windows	Not quantified	3% Chrysotile
Buildings 1-8	105-107	Gray/Black patching tar	Throughout roof penetrations & flashing	500 square feet	8% Chrysotile
Building 3	Not sampled	Transite Vent Pipes	Roof	10 linear feet	Assumed positive

[1] VFT = vinyl floor tile

2.5 Asbestos-Containing Materials Identified

1. Various Vinyl Floor Tile (VFT) and Mastic
   All VFT and mastic identified throughout Buildings 1-8 were reported as asbestos-containing. These materials are classified as Category 1 non-friable materials and are presently in good condition. They must be removed by a licensed asbestos abatement contractor prior to any renovation or demolition activities that will impact the materials. The estimated amount of the asbestos-containing VFT and mastic materials present is 11,850 square feet. The abatement contractor shall verify the quantity of material prior to bid submission.

2. White Thermal System Insulation (TSI)
   The white TSI elbows located above the ceilings of Buildings 1-8 was reported as asbestos-containing. This material is classified as friable material and is presently in good condition. Although not identified, this material may also be present inside the wall cavities. It must be removed by a licensed asbestos abatement contractor prior to any renovation or demolition activities that will impact the material. The estimated amount of material present is 75 elbows. The abatement contractor shall verify the quantity of material prior to bid submission.

3. Window Glazing
   Three (3) of the eight (8) samples collected of the window glazing were reported to be asbestos containing. The materials appear to be similar in nature and the negative materials cannot be adequately distinguished or separated from the positive materials therefore they should all be treated as asbestos-containing. The material should be considered asbestos-containing throughout Buildings 1-8. At present the material has not been quantified. This material is classified as a Category 2 non-friable material and is presently in fair condition. It must be removed by a licensed asbestos abatement contractor prior to any renovation or demolition activities that will impact the material. The abatement contractor shall quantify the window glazing prior to bid submission.

4. Gray/Black Penetration Tar
   The gray/black penetration tar located on all of the building roofs and the breezeway was reported as asbestos-containing. This material is classified as a Category 1 non-friable material and is presently in good condition. It must be removed prior to any renovation or demolition activities that will impact the material. The estimated amount of material present is 500 square feet. The abatement contractor shall verify the quantity of material prior to bid submission.

5. Transite Vent Pipe
   Two (2) transite cement vent pipes identified on the roof of Building 3 were assumed to be asbestos-containing. Sampling these transite pipes can permanently damage them, therefore samples were not collected. This material is classified as a Category 2 non-friable material and is presently in good condition. It must be removed prior to any renovation or demolition activities that will impact the material. The estimated amount of

material present is 10 linear feet. The abatement contractor shall verify the quantity of material prior to bid submission.

Please see Section 2.12 for additional information on asbestos removal.

2.6 Underground Cement (Transite) Utilities Pipe

Although excavation and/or review of as-built underground utility drawings were not part of this investigation, it should be assumed that Transite™ (asbestos-cement) utility pipes may exist underground. Water delivery and electrical systems often used Transite™ pipe and should be assumed to exist in the subsurface. An investigation targeted at identifying Transite piping should be performed prior to any planned excavation or grading at this site.

2.7 Asbestos Definition

Asbestos is a term used to describe six different naturally occurring mineral fibers found in certain rock formations. Asbestos fibers can be found in relatively low levels nearly everywhere in the environment. Prior to 1980, asbestos mineral fibers were used extensively as matrix components during the manufacturing of building materials and products. Asbestos became a popular building material component due to the strength of the fibers, their resistance to heat and corrosion and their tremendous insulation and acoustic properties. Due to the fibers small size and weight, once airborne (during demolition or after damage), they can remain suspended for many hours. Airborne releases pose a potential exposure condition because the inhalation of airborne asbestos fibers can cause serious health problems including cancer.

2.8 Regulatory Overview

In an effort to summarize California's development of asbestos regulations, it is necessary to briefly describe essential state regulations enacted to identify, control and prevent exposure to toxic chemicals in the business environment. Requirements imposed in 1986 by the State of California within Proposition 65 (Safe Drinking Water and Toxics Enforcement Act) established criteria for the listing and publication of chemicals known to cause cancer or reproductive toxicity. A portion of Proposition 65 imposes prohibitions regarding exposure to regulated materials, toxins and listed chemicals (of which asbestos is included) without prior warnings to inhabitants of a building by a property owner or property manager.

The EPA has issued an interim final rule revision of its Model Accreditation Plan (MAP) to clarify the types of training requirements necessary for asbestos-related work in schools. California's Connelly Bill (Assembly Bill 2588 - The Toxics Hot Spots Act) which was passed in 1987 requires that the California Air Resources Board develop a list of toxic air contaminants for which emissions must be reported and regulated. The Connelly Bill extended requirements for notification regarding the location, condition, status, and health risks associated with ACM in areas of public, private and commercial building which are accessible to the building's occupants. These requirements extend to employees, tenants, maintenance personnel; independent contractors and all other performing work in the building or facility. In 1986, Congress enacted the Asbestos Hazard Emergency Response Act (AHERA or TSCA Title II), which mandated a regulatory program to address asbestos hazards in schools. In 1990, Congress enacted Asbestos School Hazard Abatement Reauthorization Act (ASHARA) that amended

AHERA to extend some of the training, accreditation requirements, and sampling protocol to persons performing asbestos-related work in public and commercial building.

The key elements to AHERA/ASHARA regulations require the development of an Operations and Maintenance (O&M) Program if friable ACM (or non-friable ACM which will become friable) is present in a building.

2.9 Sampling Protocol

The sampling protocol established within AHERA (extended to commercial buildings by ASHARA) was used to determine the required number of samples for this survey based on the type, number and location of homogeneous building materials. AHERA protocol was used to determine homogeneous areas of construction in the building. Three forms of asbestos are typically found in buildings: (1) sprayed- or toweled-on surfacing materials, (2) insulation on pipes, boilers and other mechanical equipment, and (3) miscellaneous forms such as floor tile, ceiling tile, roofing materials, wallboards, window glazing, etc. AHERA recommends the collection of a minimum of nine (9) samples for each suspect asbestos-containing material (ACM). However, the minimum numbers of samples required by AHERA for sampling purposes are listed in the following table:

Table 2 - Altec Sampling Protocol

Type of Material	**Estimated Quantity**	**Required Samples**
Sprayed or Troweled-on Surfacing Material	>5,000 ft^2	7
Sprayed or Troweled-on Surfacing Material	1,000-5,000 ft^2	5
Sprayed or Troweled-on Surfacing Material	<1,000 ft^2	3
Thermal System Insulation	All Quantities	3
Miscellaneous Materials	All Quantities	3

All suspect ACMs that were observed in the scope of work area were assessed. Other suspect ACMs may exist in the building(s) that were inaccessible at the time of the survey such as but not limited to thermal system insulation (TSI) flooring materials below sub-floors and Transite pipes. If through demolition or renovation, additional suspect ACMs are discovered further testing may be required to determine the asbestos content prior to any further renovation or demolition activities. If additional quantities of identified ACM are encountered in inaccessible areas during demolition those ACMs should be added to the scope of work for abatement.

Samples of the suspect ACMs included in this survey were collected by the most unobtrusive means possible. When deemed necessary and approved by the Client, destructive sampling methods were employed to collect samples or to confirm location of materials beneath or behind other materials. When practical, buildings are typically surveyed in teams of two inspectors with one person documenting the proceedings of the survey, the other performing bulk sampling and other miscellaneous activities. One individual who then performs all of the survey and sampling tasks often surveys small facilities. The teams or individuals perform a preliminary visual inspection of the property to identify and quantify suspect ACM.

A sampling strategy is then developed to provide representative sampling. Efforts are made to obtain samples from inconspicuous areas thus limiting the damage to surfaces and materials while still providing ample materials for analysis. Bulk samples were removed with a sharp blade that was cleaned between samples. A water mister with amended water was used to wet samples and sample areas. Appropriate health and safety procedures were utilized. Each sample is placed in a plastic bag collection container; the container is sealed, labeled and placed in a larger storage bag. Destructive inspection methods to find concealed asbestos are used only in those areas specified for renovation or demolition, and only to the extent approved by the client. Care is taken to prevent cross-contamination of the collected samples and sampling equipment is cleaned after each sample is obtained. In addition, sample containers are placed directly beneath each sample location, when feasible, to collect any materials which may become dislodged during the sampling process. Any debris generated by the sampling is cleaned by wet-cleaning methods or by vacuuming utilizing a High Efficiency Particulate Air (HEPA) filter. Visible emissions to the outside were not permitted during the sampling, packaging, transportation, or disposal of the samples. Samples are documented by entering the sample data on hazard assessment sheets. The field number that is assigned to the collection bag at the time of sampling consists of the Altec Client Project (CP) number and the sample number or the Task number and sample number. The recorded information includes a description of the material, sample number, location, condition, accessibility, friability, damage potential, and quantity of homogeneous materials that that sample represents.

2.10 Laboratory Analysis

QuanTEM Laboratories (2033 Heritage Park Drive, Oklahoma City, OK) analyzed the collected bulk samples for asbestos by Polarized Light Microscopy (PLM) using Environmental Protection Agency (EPA) Method 600. QuanTEM is accredited to perform this analysis. This accreditation is provided by the United States Department of Commerce, National Institute of Standards and Technology’s (NIST) National Voluntary Laboratory Accreditation Program (NVLAP).

Bulk samples were initially examined under stereoscopic microscopes at a magnification of 8X to 50X. Stereoscopic observations of each sample were made and the results were recorded. Portions of each sample were immersed in a fluid with a known refractive index. The sample was examined under polarized light using microscopes with a McCrone Dispersion Staining Objective. Optical characteristics of the fibrous material were examined to determine the mineralogy of the fiber. The observed optical characteristics include angle of extinction, sign of elongation and dispersion staining colors. Asbestos fiber content is estimated by optically comparing the quantity of non-asbestos material to asbestos fibers. The lower limit of reliable detection using PLM is 1%. Samples that contain more than 1-% asbestos are reported in percent ranges. Samples that contain asbestos in a concentration lower than the limit of reliable detection (<1%) are reported as “trace” or “<1”. Samples in which no asbestos is observed are reported as "None Detected". Samples that are reported to contain between one and ten (1-10%) asbestos are typically recommended for an alternative PLM analytical method referred to as “point counting” method. Samples that contain between one and ten percent (1-10%) asbestos are not automatically re-analyzed by the point-count method unless specifically approved by the client. Altec will contact the client as soon as results are available to recommend and discuss Point

Counting re-analysis. Any additional methods of analysis will be conducted with an additional cost to the client.

2.11 Limitations of Inspection

The work that was performed during this inspection was done at the request of the client or the client's representative. The investigation was done so in a non-destructive manner. No repairs of the materials sampled were performed. Prior to actual demolition when the residential structures have been vacated another investigation should be conducted to insure that there are no suspect Regulated Asbestos Containing Materials present.

As previously mentioned, suspect ACMs may exist in inaccessible or hidden areas of the building(s) and these materials may not have been identified or sampled such as but not limited to thermal system insulation (TSI) flooring materials below sub-floors and Transite™ pipes. The quantifications of the suspect ACMs are estimates made at the time of sampling and should be verified by perspective asbestos abatement contractors to determine exact quantities and the accessibility of the specific materials.

The opinions and conclusions presented here are based on field observations and are consistent with practices and actions of consulting professionals in the asbestos and industrial hygiene fields.

2.12 Asbestos Removal

Any regulated ACMs present in or on the building(s) that will be impacted by any planned renovation/demolition activities must be properly removed or controlled by a registered and licensed asbestos contractor before any general renovation/demolition work begins. Licensed asbestos abatement contractors with the proper bonding and experience in similar asbestos projects must perform all work involving the removal of asbestos-containing materials.

A variety of federal, state and local regulations govern the way building owners must deal with ACMs in their facilities. State and local regulations may be more stringent than federal standards and can change periodically. The management and removal of asbestos in schools, commercial and public buildings is regulated by many different agencies under several different laws. The following is a listing of laws pertaining to asbestos sampling, assessment, management, removal, transportation and disposal.

- OSHA Construction Industry Standard for Asbestos (29 CFR 1926.1101)
- OSHA General Industry Asbestos Standard (29 CFR 1910.1001)
- OSHA Respiratory Protection Standard (29 CFR1910.134)
- Cal/OSHA Title 8 Section 1529 Asbestos
- South Coast Air Quality Management District (SCAQMD) Rule 1403
- EPA's Worker Protection Rule (40 CFR 763 Subpart G)
- EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) (40 CFR 61 Subpart M)
- EPA Asbestos Hazard Emergency Response Act (AHERA) Regulations (40 CFR 763 Subpart E)

- EPA Asbestos Ban and Phase out Rule (40 CFR 763 Subpart I)
- State of California - Connelly Bill (AB 2588 - The Toxics Hot Spots Act of 1987)
- State of California - Proposition 65 (Safe Drinking Water and Toxics Enforcement Act of 1986)
- Applicable California Air Resources Board (CARB) Regulations

Compliance with regulatory agencies must be maintained in order to avoid legal liability from exposure to workers and the environment.

3.0 LEAD TESTING

3.1 Overview

Lead in painted and/or coated materials can cause potential health problems for occupants. Lead is highly toxic and exposure to it can affect every system of the human body, it is often found in painted and coated surfaces. The groups most at risk to lead exposure are fetuses, infants and children under the age of 6; however, older children and adults also suffer severe damage from lead exposures. Most lead-poisoned children are exposed in their homes. At high levels, exposure to lead can cause death. At low levels, lead exposure affects children's developing brains and nervous systems, causing reductions in IQ, attention span, learning disabilities, hyperactivity and behavioral problems. The vast majority of childhood lead poisoning cases go undiagnosed and untreated because most poisoned children have no "obvious" symptoms. Most exposures occur through typical hand to mouth contact (ingestion) from lead dust accumulations on floors, window sills and/or from contaminated soil in play areas. Performing a lead inspection (or a lead risk assessment) and correcting lead hazards are essential steps in maintaining a lead safe space.

3.2 Scope of Work

Limited lead testing was performed on the scope of work structures. The testing was performed to identify components containing lead above the established action level or threshold (0.7 milligram per square centimeter (mg/cm^2)) that could be impacted during renovation/demolition activities and to document the current condition of the lead paint. Ceramic tile was also tested to identify the presence of lead in the glazing.

Altec performed surface-by-surface testing that was not in specific compliance with the United States (U.S.) Department of Housing and Urban Development (HUD) Housing and U.S. Environmental Protection Agency (EPA) guidelines established within 40 CFR Part 745 and Title X - The Residential Lead-Based Paint Hazard Reduction Act of 1992. These guidelines were established for residential structures.

3.3 Inspectors Qualifications

Jay A. Yowell performed the lead testing. He has completed an EPA and State of California Department of Public Health (CDPH) approved curriculum in Lead in Construction Inspector/Risk Assessor and Sampling Technician Training. He is certified by the State of California as a Lead in Construction Sampling Technician (#T-7202) and works under the direction of Lynn Laborde. Lynn Laborde has completed an EPA and CDPH approved curriculum in Lead in Construction Inspector/Risk Assessor and Project Monitor Training. She is certified by the State of California as a Lead in Construction Inspector/Risk Assessor and Project Monitor (#I/M-7203).

Personnel certifications are provided as an appendix to this report.

3.4 Sampling Protocol

The lead testing was patterned after the inspection protocol in Chapter 7 of HUD's Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing. However, the extent of the survey and the number of components/testing combinations was limited to only components and painted surfaces in the scope of work areas. Altec used an x-ray fluorescence (XRF) analyzer to test the painted or coated building component (called testing combinations by HUD). The action level used for testing purposes is 0.7 mg/cm2. Los Angeles County defines lead-bearing substances as (1) any coating or material which contains lead in excess of 0.7 mg/cm2; or (2) any substance, when measured by any scientifically accepted method, in a quantity determined by the director to constitute a hazard to children; or (3) that level as determined in the most recent standards as established by the United States Department of Health, Education and Welfare, Public Health Service, Center for Disease Control.

Painted surfaces with XRF readings of 0.7 mg/cm2 or above are considered positive (Lead). Painted surfaces with XRF readings of 0.6 mg/cm2 or lower are considered negative (Not Lead). It must be understood that painted/coated materials that contain lead at concentrations of 0.6 mg/cm2 or less still contain some amounts of lead, but these amounts have been determined to be safe by Los Angeles County, EPA and HUD.

Individual XRF readings are recorded on XRF Data Sheets. Any future changes in action levels by regulating agencies may affect the classification of results. If such action level changes occur the XRF results can be reinterpreted and new classifications can be made. No additional XRF testing is necessary.

HUD and EPA recommend that lead concentrations be reported in mg/cm2, which essentially is a recommendation for the use of XRF analyzers. The reasoning behind their recommendation is that the results reported in mg/cm2 do not change based on the number of layers of non-lead paint or coatings present at the test location. Results reported in parts per million or weight percent change depending on the number of layers of non-lead paint/coating and based on how much, if any, substrate is removed and included within the sample. In addition, XRF results can usually be obtained without damaging the painted/coated surface.

3.5 Method of Testing

In accordance with the HUD and EPA recommendations, lead testing was performed using an XRF analyzer. The specific unit used was a RMD LPA-1 and its Performance Characteristic Sheet (PCS) is provided as an appendix to this report. The device was operated in accordance with the manufacturer's instructions in addition to the procedures described in Chapter 7 of the HUD Guidelines. The unit was operated in the Lead-In-Paint K&L Variable Reading Time Mode. The exposure duration required for each result was based on the actual reading relative to the designated action level, the age of the radioactive source and the substrate on which the reading was taken. When using the an XRF analyzer in the Lead-In-Paint K&L Variable Reading Time Mode, substrate corrections are not necessary if the readings are taken on brick, concrete, drywall, metal, plaster, stucco or wood.

The XRF device's calibration was verified according to the manufacturer's specifications in compliance with the Performance Characteristic Sheet (PCS) developed and approved for the specific instrument.

Altec performed field calibration checks at the beginning of the inspection, at least once per 4 hours of inspection work and once again before the XRF analyzer was turned off or was moved to a second inspection location. A calibration check consists of three or more readings taken using NIST Standard Reference Material (SRM) with paint film having a lead concentration nearest to 1.0 mg/cm^2.

Readings from the instrument produce a 95% confidence level that the reading accurately reflects the actual concentration of lead in the tested surfaces, relative to the 1.0 mg/cm^2 action level.

3.6 Summary of Positive Lead Results

The following table is a list of the components that were tested using an XRF device. None of the test locations yielded lead concentrations at or above the 1.0 mg/cm^2.

Table 3 – Components Tested for Lead

Test No.	Location	Component	Top Color	Substrate	Condition	Result (mg/cm^2)
	Calibration					0.7
	Calibration					1.0
	Calibration					1.0
1	Building 1 Exterior	Eaves	White	Wood	Intact	-0.2
2	Building 1 Exterior	Fascia	White	Wood	Intact	0.1
3	Building 1 Exterior	Doors	White	Wood	Intact	0.1
4	Building 1 Exterior	Door Frames	White	Metal	Intact	0.1
5	Building 1 Exterior	Window Frames	Red	Metal	Intact	0.2
6	Building 1 Interior	Walls	White	Brick	Intact	0.2
7	Building 1 Interior	Walls	White	Plaster	Intact	0.1
8	Building 1 Interior	Walls	Blue	Plaster	Intact	0.1
9	Building 2 Exterior	Eaves	White	Wood	Intact	-0.1
10	Building 2 Exterior	Fascia	White	Wood	Intact	-0.1
11	Building 2 Exterior	Doors	White	Wood	Intact	0.1
12	Building 2 Exterior	Door Frames	White	Metal	Intact	0.1
13	Building 2 Exterior	Window Frames	Red	Metal	Intact	0.2
14	Building 2 Interior	Walls	White	Brick	Intact	0.2
15	Building 2 Interior	Walls	White	Plaster	Intact	0.1
16	Building 3 Exterior	Eaves	White	Wood	Intact	-0.2
17	Building 3 Exterior	Fascia	White	Wood	Intact	0.1
18	Building 3 Exterior	Doors	Blue	Wood	Intact	0.1
19	Building 3 Exterior	Door Frames	Blue	Metal	Intact	0.1
20	Building 3 Exterior	Window Frames	Red	Metal	Intact	0.2
21	Building 3 Interior	Doors	White	Wood	Intact	-0.2

Test No.	Location	Component	Top Color	Substrate	Condition	Result (mg/cm^2)
22	Building 3 Interior	Door Frames	White	Wood	Intact	-0.2
23	Building 3 Interior	Walls	White	Brick	Intact	0.1
24	Building 3 Interior	Window Frames	White	Metal	Intact	0.2
25	Building 3 Interior	Window Sills	White	Brick	Intact	0.2
26	Building 3 Interior	Cabinets	White	Wood	Intact	0.1
27	Building 4 Exterior	Eaves	White	Wood	Intact	-0.2
28	Building 4 Exterior	Fascia	White	Wood	Intact	0.1
29	Building 4 Exterior	Doors	Blue	Wood	Intact	-0.3
30	Building 4 Exterior	Door Frame	Yellow	Metal	Fair	.03
31	Building 4 Exterior	Window Frames	Red	Metal	Intact	0.2
32	Building 4 Interior	Window Frames	White	Metal	Intact	0.2
33	Building 4 Interior	Window Sills	White	Brick	Intact	0.2
34	Building 4 Interior	Cabinets	White	Wood	Intact	0.1
35	Building 5 Exterior	Eaves	White	Wood	Intact	-0.2
36	Building 5 Exterior	Fascia	White	Wood	Intact	0.1
37	Building 5 Exterior	Doors	Blue	Wood	Intact	-0.3
38	Building 5 Exterior	Door Frame	Blue	Metal	Intact	-0.1
39	Building 5 Exterior	Window Frames	Red	Metal	Intact	0.2
40	Building 5 Interior	Walls	Pink	Brick	Intact	0.1
41	Building 5 Interior	Walls	White	Brick	Intact	0.1
42	Building 5 Interior	Walls	Pink	Plaster	Intact	0.2
43	Building 5 Interior	Walls	Blue	Brick	Intact	0.2
44	Building 5 Interior	Walls	Blue	Plaster	Intact	0.1
45	Building 5 Interior	Walls	Yellow	Brick	Intact	0.1
46	Building 5 Interior	Cabinets	Pink	Wood	Intact	-0.1
47	Building 5 Interior	Cabinets	Blue	Wood	Intact	-0.1
48	Building 5 Interior	Cabinets	Yellow	Wood	Intact	0.1
49	Building 6 Exterior	Eaves	White	Wood	Intact	-0.2
50	Building 6 Exterior	Fascia	White	Wood	Intact	0.1
51	Building 6 Exterior	Doors	Blue	Wood	Intact	-0.3
52	Building 6 Exterior	Door Frame	Blue	Metal	Intact	-0.1
53	Building 6 Exterior	Window Frames	Red	Metal	Intact	0.2
54	Building 6 Interior	Door	White	Wood	Intact	-0.3
55	Building 6 Interior	Walls	White	Brick	Intact	-0.2
56	Building 6 Interior	Cabinets	Turquoise	Wood	Intact	-0.2
57	Building 7 Exterior	Eaves	White	Wood	Intact	-0.2
58	Building 7 Exterior	Fascia	White	Wood	Intact	0.1
59	Building 7 Exterior	Doors	Blue	Wood	Intact	-0.3
60	Building 7 Exterior	Door Frame	Multiple	Metal	Intact	-0.1
61	Building 7 Exterior	Window Frames	Red	Metal	Intact	0.2
62	Building 7 Exterior	Walls	White	Brick	Intact	-0.2
63	Building 7 Exterior	Cabinets	Blue	Wood	Intact	-0.2
64	Building 8 Exterior	Eaves	White	Wood	Intact	-0.2
65	Building 8 Exterior	Fascia	White	Wood	Intact	0.1
66	Building 8 Exterior	Door	Blue	Wood	Intact	-0.3

Test No.	Location	Component	Top Color	Substrate	Condition	Result (mg/cm^2)
67	Building 8 Exterior	Door Frame	Blue/Wht.	Metal	Intact	-0.1
68	Building 8 Exterior	Window Frames	Red	Metal	Intact	0.2
69	Building 8 Exterior	Door	White	Wood	Intact	-0.1
70	Building 8 Interior	Walls	White	Brick	Intact	0.1
71	Building 8 Interior	Walls	White	Plaster	Intact	0.1
72	Building 8 Interior	Door Frame	Green	Wood	Intact	-0.3
73	Building 8 Interior	Window Frame	Green	Metal	Intact	-0.2
74	Exterior	Canopy Poles	White	Metal	Intact	0.1
75	Exterior	Patio Posts	Red	Wood	Intact	0.2
	Calibration					1.0
	Calibration					1.0
	Calibration					1.0

3.7 Lead Removal

None of the tested components contained lead above 1.0 mg/cm^2, therefore lead removal work for the tested components is not anticipated.

3.8 Limitations

The work that was performed was done at the request of the client or the client's representative. The inspection was performed in a non-destructive manner. The ceramic wall and floor tile were tested using the XRF analyzer but no bulk samples were collected for laboratory analysis because they could not be collected without causing noticeable damage. Other lead components may exist within the facility in areas that were not identified or sampled.

This inspection was planned and performed in accordance with Altec training and experience in performing lead inspections. The inspection was performed to support renovation or demolition of the building(s). It was NOT performed in accordance with Chapter 7 of the HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing. Altec's evaluation of the relative risk of exposure to lead identified in this survey is based solely on the conditions observed at the time of the site visit. This project included limited lead testing and not a lead risk assessment. Altec cannot be held responsible for changing conditions that may alter the condition of the lead component surfaces after the time of the testing or in changes in accepted protocol, methodology or action levels.

4.0 UNIVERSAL WASTES/OTHER REGULATED MATERIALS

4.1 Overview

California's Universal Waste Rule allows individuals and businesses to transport, handle and recycle certain common hazardous wastes, termed universal wastes, in a manner that differs from the requirements for most hazardous wastes. The more relaxed requirements for managing universal wastes were adopted to ensure that they are managed safely and are not disposed of in the trash[2].

Universal wastes are hazardous wastes that are widely produced by households and many different types of businesses. Universal wastes include televisions, computers and other electronic devices as well as batteries, fluorescent lamps, mercury thermostats, and other mercury containing equipment, among others.

The hazardous waste regulations (California Code Regulations, Title 22, Division 4.5, Chapter 11 Section 66261.9) identify seven categories of hazardous wastes that can be managed as universal wastes. Any unwanted item that falls within one of these seven waste streams can be handled, transported and recycled following the simple requirements set forth in the universal waste regulations (UWR) (California Code Regulations, Title 22, Division 4.5, Chapter 23).

Universal wastes are:

1. Electronic devices: Includes any electronic device with or without a Cathode Ray Tube (CRT), including televisions, computer monitors, cell phones, VCRs, computer CPUs and portable DVD players.

2. Batteries: Most household-type batteries, including rechargeable nickel-cadmium batteries, silver button batteries, mercury batteries, alkaline batteries and other batteries that exhibit a characteristic of a hazardous waste

3. Electric lamps: Fluorescent tubes and bulbs, high intensity discharge lamps, sodium vapor lamps and electric lamps that contain added mercury, as well as any other lamp that exhibits a characteristic of a hazardous waste. (e.g., lead).

4. Mercury-containing equipment: Thermostats, mercury switches, mercury thermometers, pressure or vacuum gauges, dilators and weighted tubing, mercury rubber flooring, mercury gas flow regulators, dental amalgams, counterweights, dampers and mercury added novelties such as jewelry, ornaments and footwear.

5. CRTs: The glass picture tubes removed from devices such as televisions and computer monitors.

6. CRT glass: A cathode ray tube that has been accidently broken or processed for recycling.

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[2] Referenced directly from California EPA DTSC, Universal Waste Fact Sheet, January 2010

7. Non-empty aerosol cans

Universal waste cannot be sent to a municipal solid waste (trash) landfill or a non-hazardous waste recycling center.

Additional regulated materials could be present in/on the building/property. These are identified and discussed below.

4.2 Scope of Work

Altec provides a limited review of the universal wastes and other regulated materials to make the client aware of the regulations in place for the proper management, handling and disposal/recycling of these wastes. These universal wastes are found in most every building that we survey for asbestos-containing materials and test for lead paint/coatings. Altec performed a visual review of these types of wastes/equipment/materials only and did not inspect inside locked, hidden or inaccessible areas of the building(s).

The following table shows the number of observed fluorescent light ballasts, light tubes, mercury switches and HVAC units:

Table 4 - Universal & Regulated Waste Summary

Address/Location	Ballasts	Light Tubes	Mercury Switches	HVAC Units
Building 1	60	120	None	None
Building 2	2	4	None	None
Building 3	22	44	None	None
Building 4	29	58	None	None
Building 5	66	104	None	None
Building 6	15	30	None	None
Building 7	10	20	None	None
Building 8	15	30	None	None
NOTE: The quantities indicated above are estimates that were made at the time of Altec's inspection. More accurate estimates would require dismantling of in service light fixtures and other electronic equipment. The actual quantities should be verified by independent demolition contractors before accurate removal costs can be formulated.				

4.3 Electronic Devices/Batteries

A list of the seven universal wastes categories identified by California EPA is provided in Section 4.1. Because the business was still active, universal wastes, specifically electronic devices, are expected to be present. The following electronic devices are commonly found in occupied buildings: monitors, computer systems, security system, telephone equipment, radios and cash registers.

These items must be removed from the site prior to demolition/renovation activity and must be handled and disposed of or recycled properly. Miscellaneous universal wastes may never be disposed of in the regular municipal trash, flushed down toilets, poured down drains and storm water drains or dumped in the environment in any way. All universal wastes must be handled and disposed of or recycled in a proper manner.

4.4 Mercury

The types of mercury-containing items/equipment commonly found in buildings include: Fluorescent light tubes and bulbs, high intensity discharge lamps, sodium vapor lamps and electric lamps that contain added mercury, thermostats, mercury switches, mercury thermometers, pressure or vacuum gauges, dilators and weighted tubing, mercury rubber flooring, mercury gas flow regulators, dental amalgams, counterweights, dampers and mercury added novelties such as jewelry, ornaments and footwear.

Fluorescent light tubes of various lengths were observed inside the building(s), outdoor light fixtures containing high-intensity discharge (HID) light tubes, and thermostats were also observed. These materials will need to be properly handled and disposed or recycled prior to demolition.

Outdoor lighting units typically require brighter light than indoor sources. Examples include streetlights and security lights. HID lamps are well suited for energy efficient outdoor applications. These lamps utilize mercury vapor. Outdoor lighting units equipped with HID bulbs also contain ballasts that can contain PCBs or DEHP.

4.5 PCBs/ DEHP in Electrical Equipment

Polychlorinated Biphenyls (PCBs)/Di(2-ethylhexyl)phthalate (DEHP)-containing equipment is considered to be a hazardous waste, not a universal waste.

Electrical ballasts are present within fluorescent light fixtures. These ballasts may contain PCB-containing dielectric (insulating) fluids. The manufacture of PCBs for commercial and residential use was banned in 1979. Typically, buildings constructed before 1980 are suspected of containing PCBs in electrical components. Regardless of age, all light fixture ballasts should be assumed PCB-containing unless they are marked “NO PCBs”. State and federal government agencies regulate handling and disposal of PCB-containing equipment as a hazardous waste.

Statistics show that half of all non-PCB fluorescent light ballasts contain a different toxic chemical di(2-ethylhexyl)phthalate (DEHP). Similar to PCBs, DEHP is considered a hazardous waste. DEHP is a clear, odorless, synthetic compound that is used extensively as a plasticizer. Beginning in 1979, DEHP was used to replace PCBs as a dielectric fluid in ballasts. By 1985, most manufacturers stopped using DEHP in ballasts for 4-foot fixtures. However, they continued to use DEHP in ballasts for 8-foot fixtures as well as for High Intensity Discharge (HID) fixtures until 1991. In most cases, the replacement for DEHP was a dry metallic capacitor.

Pole-mounted electrical transformers were observed at the property.

5.6 Freon

Regulations prohibit the release of Freon into the atmosphere and require the safe disposal of Freon-containing devices. Air conditioners, freezers, and refrigerators are examples of Freon-containing devices. Freon and other chlorofluorocarbons (“CFCs”) and hydro-Chlorofluorocarbons (“HCFCs”), contained in refrigeration and cooling systems, have been found to deplete the ozone layer and were banned from production in 1990 under Title VI of the Clean Air Act (CAA) amendment. The CAA provisions require special management procedures for the manufacturing, handling, and management of CFCs and other ozone depleting chemicals. The CAA does not allow any refrigerant to be vented into the atmosphere during installation, service, or retirement of equipment. CFCs and HCFCs may be encountered during the renovation and demolition of structures, most commonly encountered during the disposal of refrigerators, air conditioning units, and fire extinguishers.

5.7 Lead Water/Sewer Piping

Altec did not observe the presence of buried lead water or sewer piping; however, these types of construction materials can be present at older facilities. Lead pipes can be disposed of as construction debris at an approved landfill and should not present a significant environmental or worker health and safety concern during demolition activities if the pipes are not cut using heat or abrasive methods.

5.8 Chemicals

Other materials and chemicals can present management concerns prior to demolition of structures. Products such as CO_2 carbonation tanks, cleaning products, paints, non-empty aerosol cans, oil, fuels and solvents were not specifically observed but may be present in locked rooms or other non-inspected portions of the buildings. These products should be managed/ handled properly so that they are not released into the environmental.

Appendix A – Asbestos Sample Summary Sheets

Appendix B – Asbestos Analytical Results & Chain of Custody Sheets

Appendix C – Laboratory Certifications

Appendix D – RMD LPA-1 XRF Performance Characteristic Sheets

Appendix E – Inspector Certificates

Appendix F – Structure Locations (Figure 1)

Appendix A – Asbestos Sample Summary Sheets

Asbestos Survey Summary Information

ULTRA SYSTEMS ENVIRONMENTAL, INC.

Bldg/Floor Date Sampled	Grid Location Lin. Ft	Sq. Ft	Sample # Task Number	Sample Type Assessment Area	Classification	% Asbestos Haz Ass Rate
5950/1 **5/16/2013**	**STONEVIEW DR** **N / A**	**2,400**	**001** **2013060**	**BROWN VINYL FLOOR TILE** **BLDG 1-CAFETERIA DINING**	**NON I**	**8** **13**
5950/1 **5/16/2013**	**STONEVIEW DR** **N / A**	**2,400**	**002** **2013060**	**BLACK MASTIC** **BLDG 1-CAFETERIA DINING**	**NON I**	**3** **9**
5950/1 **5/16/2013**	**STONEVIEW DR** **N / A**	**2,400**	**003** **2013060**	**BROWN VINYL FLOOR TILE** **BLDG 1-CAFETERIA DINING**	**NON I**	**8** **13**
5950/1 **5/16/2013**	**STONEVIEW DR** **N / A**	**2,400**	**004** **2013060**	**BLACK MASTIC** **BLDG 1-CAFETERIA DINING**	**NON I**	**3** **9**
5950/1 **5/16/2013**	**STONEVIEW DR** **N / A**	**2,400**	**005** **2013060**	**BROWN VINYL FLOOR TILE** **BLDG 1-CAFETERIA DINING**	**NON I**	**8** **13**
5950/1 **5/16/2013**	**STONEVIEW DR** **N / A**	**2,400**	**006** **2013060**	**BLACK MASTIC** **BLDG 1-CAFETERIA DINING**	**NON I**	**3** **9**
5950/1 **5/16/2013**	**STONEVIEW DR** **N / A**	**600**	**007** **2013060**	**TAN VINYL FLOOR TILE** **BLDG 1-KITCHEN AREA**	**NON I**	**6** **13**
5950/1 **5/16/2013**	**STONEVIEW DR** **N / A**	**600**	**008** **2013060**	**BLACK MASTIC** **BLDG 1-KITCHEN AREA**	**NON I**	**5** **9**
5950/1 **5/16/2013**	**STONEVIEW DR** **N / A**	**600**	**009** **2013060**	**TAN VINYL FLOOR TILE** **BLDG 1-KITCHEN AREA**	**NON I**	**6** **13**
5950/1 **5/16/2013**	**STONEVIEW DR** **N / A**	**600**	**010** **2013060**	**BLACK MASTIC** **BLDG 1-KITCHEN AREA**	**NON I**	**5** **9**
5950/1 **5/16/2013**	**STONEVIEW DR** **N / A**	**600**	**011** **2013060**	**TAN VINYL FLOOR TILE** **BLDG 1-KITCHEN AREA**	**NON I**	**6** **13**
5950/1 **5/16/2013**	**STONEVIEW DR** **N / A**	**600**	**012** **2013060**	**BLACK MASTIC** **BLDG 1-KITCHEN AREA**	**NON I**	**4** **9**
5950/1 5/16/2013	STONEVIEW DR N / A	3,000	013 2013060	CEILING TILE BLDG 1-THROUGHOUT	FRIABLE	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	3,000	014 2013060	CEILING TILE BLDG 1-THROUGHOUT	FRIABLE	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	3,000	015 2013060	CEILING TILE BLDG 1-THROUGHOUT	FRIABLE	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	3,000	016 2013060	CEILING TILE ADHESIVE BLDG 1-THROUGHOUT	NON I	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	3,000	017 2013060	CEILING TILE ADHESIVE BLDG 1-THROUGHOUT	NON I	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	3,000	018 2013060	CEILING TILE ADHESIVE BLDG 1-THROUGHOUT	NON I	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	100	019 2013060	BROWN COVE BASE ADHESIVE BLDG 1-THROUGHOUT	NON I	ND -1

ULTRA SYSTEMS ENVIRONMENTAL, INC.

Bldg/Floor Date Sampled	Grid Location Lin. Ft	 Sq. Ft	Sample # Task Number	Sample Type Assessment Area	 Classification	% Asbestos Haz Ass Rate
5950/1 5/16/2013	STONEVIEW DR N / A	 100	020 2013060	BROWN COVE BASE ADHESIVE BLDG 1-THROUGHOUT	 NON I	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	 100	021 2013060	BROWN COVE BASE ADHESIVE BLDG 1-THROUGHOUT	 NON I	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	 50	022 2013060	ORANGE VINYL FLOOR TILE BLDG 1-AREA ADJACENT	 NON I	ND -1
5950/1 5/16/2013	**STONEVIEW DR N / A**	** 50**	**023 2013060**	**BLACK MASTIC BLDG 1-AREA ADJACENT**	** NON I**	**2 9**
5950/1 5/16/2013	STONEVIEW DR N / A	 50	024 2013060	ORANGE VINYL FLOOR TILE BLDG 1-AREA ADJACENT	 NON I	ND -1
5950/1 5/16/2013	**STONEVIEW DR N / A**	** 50**	**025 2013060**	**BLACK MASTIC BLDG 1-AREA ADJACENT**	** NON I**	**2 9**
5950/1 5/16/2013	STONEVIEW DR N / A	 50	026 2013060	ORANGE VINYL FLOOR TILE BLDG 1-AREA ADJACENT	 NON I	ND -1
5950/1 5/16/2013	**STONEVIEW DR N / A**	** 50**	**027 2013060**	**BLACK MASTIC BLDG 1-AREA ADJACENT**	** NON I**	**2 9**
5950/1 5/16/2013	STONEVIEW DR N / A	 3,000	028 2013060	DRYWALL/JOINT COMPOUND CEILING ABOVE CEILING TILE	 NON II	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	 3,000	029 2013060	DRYWALL/JOINT COMPOUND CEILING ABOVE CEILING TILE	 NON II	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	 3,000	030 2013060	DRYWALL/JOINT COMPOUND CEILING ABOVE CEILING TILE	 NON II	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	 UNQ	031 2013060	PLASTER COMPOSITE BLDG 1-THROUGHOUT	 NON II	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	 UNQ	032 2013060	PLASTER COMPOSITE BLDG 1-THROUGHOUT	 NON II	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	 UNQ	033 2013060	PLASTER COMPOSITE BLDG 1-THROUGHOUT	 NON II	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	 10 EA	034 2013060	WHITE PIPE COVER BLDG 1-KITCHEN AREA	 FRIABLE	ND -1
5950/1 5/16/2013	**STONEVIEW DR N / A**	** 10 EA**	**035 2013060**	**WHITE TSI BLDG 1-KITCHEN AREA**	** FRIABLE**	**5 12**
5950/1 5/16/2013	STONEVIEW DR 500	 N / A	036 2013060	TAN PIPE JACKET BLDG 1-KITCHEN AREA	 FRIABLE	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	 6 EA	037 2013060	WHITE PIPE COVER BLDG 2-RESTROOMS	 FRIABLE	ND -1
5950/1 5/16/2013	**STONEVIEW DR N / A**	** 6 EA**	**038 2013060**	**WHITE TSI BLDG 2-RESTROOMS**	** FRIABLE**	**6 12**
5950/1 5/16/2013	STONEVIEW DR 100	 N / A	039 2013060	TAN PIPE JACKET BLDG 2-RESTROOMS	 FRIABLE	ND -1

ULTRA SYSTEMS ENVIRONMENTAL, INC.

Bldg/Floor Date Sampled	Grid Location Lin. Ft	 Sq. Ft	Sample # Task Number	Sample Type Assessment Area	Classification	% Asbestos Haz Ass Rate
5950/1	STONEVIEW DR		040	PLASTER COMPOSITE		ND
5/16/2013	N / A	UNQ	2013060	BLDG 2-THROUGHOUT	NON II	-1
5950/1	STONEVIEW DR		041	PLASTER COMPOSITE		ND
5/16/2013	N / A	UNQ	2013060	BLDG 2-THROUGHOUT	NON II	-1
5950/1	STONEVIEW DR		042	PLASTER COMPOSITE		ND
5/16/2013	N / A	UNQ	2013060	BLDG 2-THROUGHOUT	NON II	-1
5950/1	**STONEVIEW DR**		**043**	**BROWN VINYL FLOOR TILE**		**7**
5/16/2013	**N / A**	**1,800**	**2013060**	**BLDG 3-THROUGHOUT**	**NON I**	**13**
5950/1	**STONEVIEW DR**		**044**	**BLACK MASTIC**		**5**
5/16/2013	**N / A**	**1,800**	**2013060**	**BLDG 3-THROUGHOUT**	**NON I**	**9**
5950/1	**STONEVIEW DR**		**045**	**CREAM VINYL FLOOR TILE**		**7**
5/16/2013	**N / A**	**1,800**	**2013060**	**BLDG 3-THROUGHOUT**	**NON I**	**13**
5950/1	**STONEVIEW DR**		**046**	**BLACK MASTIC**		**5**
5/16/2013	**N / A**	**1,800**	**2013060**	**BLDG 3-THROUGHOUT**	**NON I**	**9**
5950/1	**STONEVIEW DR**		**047**	**GRAY VINYL FLOOR TILE**		**6**
5/16/2013	**N / A**	**1,800**	**2013060**	**BLDG 3-THROUGHOUT**	**NON I**	**13**
5950/1	**STONEVIEW DR**		**048**	**BLACK MASTIC**		**4**
5/16/2013	**N / A**	**1,800**	**2013060**	**BLDG 3-THROUGHOUT**	**NON I**	**9**
5950/1	STONEVIEW DR		049	CEILING TILE		ND
5/16/2013	N / A	1,800	2013060	BLDG 3-THROUGHOUT	FRIABLE	-1
5950/1	STONEVIEW DR		050	BROWN COVE BASE ADHESIVE		ND
5/16/2013	N / A	25	2013060	BLDG 3-THROUGHOUT	NON I	-1
5950/1	STONEVIEW DR		051	PLASTER		ND
5/16/2013	N / A	100	2013060	BLDG 3-SOFIT AREAS	NON II	-1
5950/1	**STONEVIEW DR**		**052**	**BROWN VINYL FLOOR TILE**		**8**
5/16/2013	**N / A**	**1,800**	**2013060**	**BLDG 4-THROUGHOUT**	**NON I**	**13**
5950/1	**STONEVIEW DR**		**053**	**BLACK MASTIC**		**3**
5/16/2013	**N / A**	**1,800**	**2013060**	**BLDG 4-THROUGHOUT**	**NON I**	**9**
5950/1	STONEVIEW DR		054	CEILING TILE		ND
5/16/2013	N / A	1,800	2013060	BLDG 4-THROUGHOUT	FRIABLE	-1
5950/1	STONEVIEW DR		055	BROWN COVE BASE ADHESIVE		ND
5/16/2013	N / A	40	2013060	BLDG 4-THROUGHOUT	NON I	-1
5950/1	STONEVIEW DR		056	PLASTER COMPOSITE		ND
5/16/2013	N / A	100	2013060	BLDG 4-SOFITS	NON II	-1
5950/1	STONEVIEW DR		057	DRYWALL/JOINT COMPOUND		ND
5/16/2013	N / A	600	2013060	BLDG 4-CLASSROOM	NON II	-1
5950/1	STONEVIEW DR		058	DRYWALL/JOINT COMPOUND		ND
5/16/2013	N / A	600	2013060	BLDG 4-CLASSROOM	NON II	-1
5950/1	STONEVIEW DR		059	DRYWALL/JOINT COMPOUND		ND
5/16/2013	N / A	600	2013060	BLDG 4-CLASSROOM	NON II	-1

ULTRA SYSTEMS ENVIRONMENTAL, INC.

Bldg/Floor Date Sampled	Grid Location Lin. Ft	Sq. Ft	Sample # Task Number	Sample Type Assessment Area	Classification	% Asbestos Haz Ass Rate
5950/1 5/16/2013	STONEVIEW DR N / A	10 EA	060 2013060	WHITE PIPE WRAP BLDG 5-ABOVE CEILING	FRIABLE	ND -1
5950/1 5/16/2013	**STONEVIEW DR N / A**	**10 EA**	**061 2013060**	**WHITE TSI BLDG 5**	**FRIABLE**	**7 12**
5950/1 5/16/2013	STONEVIEW DR 200	N / A	062 2013060	TAN PIPE JACKET BLDG 5	FRIABLE	ND -1
5950/1 5/16/2013	**STONEVIEW DR N / A**	**2,500**	**063 2013060**	**BROWN VINYL FLOOR TILE BLDG 5**	**NON I**	**8 13**
5950/1 5/16/2013	**STONEVIEW DR N / A**	**2,500**	**064 2013060**	**BLACK MASTIC BLDG 5**	**NON I**	**4 9**
5950/1 5/16/2013	STONEVIEW DR N / A	1,000	065 2013060	PLASTER COMPOSITE BLDG 5	NON II	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	2,300	066 2013060	CEILING TILE BLDG 5	NON I	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	100	067 2013060	BROWN COVE BASE ADHESIVE BLDG 5	NON I	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	200	068 2013060	WHITE RSF BLDG 5-COUNTER TOPS	NON II	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	200	068A 2013060	YELLOW MASTIC BLDG 5-COUNTER TOPS	NON II	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	200	069 2013060	WHITE RSF BLDG 5-COUNTER TOPS	NON II	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	200	069A 2013060	YELLOW MASTIC BLDG 5-COUNTER TOPS	NON II	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	200	070 2013060	WHITE RSF BLDG 5-COUNTER TOPS	NON II	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	200	070A 2013060	YELLOW MASTIC BLDG 5-COUNTER TOPS	NON II	ND -1
5950/1 5/16/2013	**STONEVIEW DR N / A**	**900**	**071 2013060**	**BROWN VINYL FLOOR TILE BLDG 6-THROUGHOUT**	**NON I**	**6 13**
5950/1 5/16/2013	**STONEVIEW DR N / A**	**900**	**072 2013060**	**BLACK MASTIC BLDG 6-THROUGHOUT**	**NON I**	**4 9**
5950/1 5/16/2013	STONEVIEW DR N / A	40	073 2013060	PLASTER COMPOSITE BLDG 6-SOFIT	NON II	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	20	074 2013060	BROWN COVE BASE ADHESIVE BLDG 6-THROUGHOUT	NON I	ND -1
5950/1 5/16/2013	STONEVIEW DR N / A	900	075 2013060	CEILING TILE BLDG 6-THROUGHOUT	FRIABLE	ND -1
5950/1 5/16/2013	**STONEVIEW DR N / A**	**90**	**076 2013060**	**BROWN VINYL FLOOR TILE BLDG 7-THROUGHOUT**	**NON I**	**7 13**

ULTRA SYSTEMS ENVIRONMENTAL, INC.

Bldg/Floor	Grid Location		Sample #	Sample Type		% Asbestos
Date Sampled	**Lin. Ft**	**Sq. Ft**	**Task Number**	**Assessment Area**	**Classification**	**Haz Ass Rate**
5950/1	**STONEVIEW DR**		**077**	**BLACK MASTIC**		**5**
5/16/2013	**N / A**	**900**	**2013060**	**BLDG 7-THROUGHOUT**	**NON I**	**9**
5950/1	STONEVIEW DR		078	PLASTER COMPOSITE		ND
5/16/2013	N / A	40	2013060	BLDG 7-SOFIT	NON II	-1
5950/1	STONEVIEW DR		079	BROWN COVE BASE ADHESIVE		ND
5/16/2013	N / A	20	2013060	BLDG 7-THROUGHOUT	NON I	-1
5950/1	STONEVIEW DR		080	CEILING TILE		ND
5/16/2013	N / A	900	2013060	BLDG 7-THROUGHOUT	FRIABLE	-1
5950/1	**STONEVIEW DR**		**081**	**BROWN VINYL FLOOR TILE**		**8**
5/16/2013	**N / A**	**900**	**2013060**	**BLDG 8-THROUGHOUT OFFICE**	**NON I**	**13**
5950/1	**STONEVIEW DR**		**082**	**BLACK MASTIC**		**3**
5/16/2013	**N / A**	**900**	**2013060**	**BLDG 8-THROUGHOUT OFFICE**	**NON I**	**9**
5950/1	STONEVIEW DR		083	PLASTER COMPOSITE		ND
5/16/2013	N / A	1,000	2013060	BLDG 8-THROUGHOUT OFFICE	NON II	-1
5950/1	STONEVIEW DR		084	BROWN COVE BASE ADHESIVE		ND
5/16/2013	N / A	50	2013060	BLDG 8-THROUGHOUT OFFICE	NON I	-1
5950/1	STONEVIEW DR		085	CEILING TILE		ND
5/16/2013	N / A	900	2013060	BLDG 8-THROUGHOUT OFFICE	FRIABLE	-1
5950/1	STONEVIEW DR		086	STUCCO		ND
5/16/2013	N / A	2,500	2013060	BREEZEWAY	NON II	-1
5950/1	STONEVIEW DR		087	STUCCO		ND
5/16/2013	N / A	2,500	2013060	BREEZEWAY	NON II	-1
5950/1	STONEVIEW DR		088	STUCCO		ND
5/16/2013	N / A	2,500	2013060	BREEZEWAY	NON II	-1
5950/1	STONEVIEW DR		089	WINDOW GLAZING		ND
5/16/2013	N / A	UNQ	2013060	BLDG 1	NON II	-1
5950/1	**STONEVIEW DR**		**090**	**WINDOW GLAZING**		**2**
5/16/2013	**N / A**	**UNQ**	**2013060**	**BLDG 2**	**NON II**	**13**
5950/1	STONEVIEW DR		091	WINDOW GLAZING		ND
5/16/2013	N / A	UNQ	2013060	BLDG 3	NON II	-1
5950/1	STONEVIEW DR		092	WINDOW GLAZING		ND
5/16/2013	N / A	UNQ	2013060	BLDG 4	NON II	-1
5950/1	STONEVIEW DR		093	WINDOW GLAZING		ND
5/16/2013	N / A	UNQ	2013060	BLDG 5	NON II	-1
5950/1	**STONEVIEW DR**		**094**	**WINDOW GLAZING**		**3**
5/16/2013	**N / A**	**UNQ**	**2013060**	**BLDG 6**	**NON II**	**13**
5950/1	**STONEVIEW DR**		**095**	**WINDOW GLAZING**		**2**
5/16/2013	**N / A**	**UNQ**	**2013060**	**BLDG 7**	**NON II**	**13**
5950/1	STONEVIEW DR		096	WINDOW GLAZING		ND
5/16/2013	N / A	UNQ	2013060	BLDG 8	NON II	-1

ULTRA SYSTEMS ENVIRONMENTAL, INC.

Bldg/Floor Date Sampled	Grid Location Lin. Ft	Sq. Ft	Sample # Task Number	Sample Type Assessment Area	Classification	% Asbestos Haz Ass Rate
5950/R	STONEVIEW DR		097	ROOF COMPOSITE		ND
5/16/2013	N / A	14,500	2013060	BLDG 1	NON I	-1
5950/R	STONEVIEW DR		098	ROOF COMPOSITE		ND
5/16/2013	N / A	14,500	2013060	BLDG 2	NON I	-1
5950/R	STONEVIEW DR		099	ROOF COMPOSITE		ND
5/16/2013	N / A	14,500	2013060	BLDG 4	NON I	-1
5950/R	STONEVIEW DR		100	ROOF COMPOSITE		ND
5/16/2013	N / A	14,500	2013060	BLDG 5	NON I	-1
5950/R	STONEVIEW DR		101	ROOF COMPOSITE		ND
5/16/2013	N / A	14,500	2013060	BLDG 6	NON I	-1
5950/R	STONEVIEW DR		102	ROOF COMPOSITE		ND
5/16/2013	N / A	14,500	2013060	BLDG 7	NON I	-1
5950/R	STONEVIEW DR		103	ROOF COMPOSITE		ND
5/16/2013	N / A	14,500	2013060	BLDG 8	NON I	-1
5950/R	STONEVIEW DR		104	ROOF COMPOSITE		ND
5/16/2013	N / A	14,500	2013060	BREEZEWAY	NON I	-1
5950/R	**STONEVIEW DR**		**105**	**GRAY/BLACK PATCHING TAR**		**8**
5/16/2013	**N / A**	**500**	**2013060**	**THROUGHOUT ROOFS**	**NON I**	**13**
5950/R	**STONEVIEW DR**		**106**	**GRAY/BLACK PATCHING TAR**		**8**
5/16/2013	**N / A**	**500**	**2013060**	**THROUGHOUT ROOFS**	**NON I**	**13**
5950/R	**STONEVIEW DR**		**107**	**GRAY/BLACK PATCHING TAR**		**8**
5/16/2013	**N / A**	**500**	**2013060**	**THROUGHOUT ROOFS**	**NON I**	**13**
5950/R	STONEVIEW DR		108	BLACK SHINGLE/FELT		ND
5/16/2013	N / A	1,800	2013060	BLDG 3	NON I	-1
5950/R	STONEVIEW DR		108A	BLACK TAR PAPER		ND
5/16/2013	N / A	1,800	2013060	BLDG 3	NON I	-1
5950/R	STONEVIEW DR		109	BLACK SHINGLE/FELT		ND
5/16/2013	N / A	1,800	2013060	BLDG 3	NON I	-1
5950/R	STONEVIEW DR		109A	BLACK TAR PAPER		ND
5/16/2013	N / A	1,800	2013060	BLDG 3	NON I	-1
5950/R	STONEVIEW DR		110	BLACK SHINGLE/FELT		ND
5/16/2013	N / A	1,800	2013060	BLDG 3	NON I	-1
5950/R	STONEVIEW DR		110A	BLACK TAR PAPER		ND
5/16/2013	N / A	1,800	2013060	BLDG 3	NON I	-1

Appendix B – Asbestos Analytical Results & Chain of Custody Sheets

2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Polarized Light Microscopy Asbestos Analysis Report

QuanTEM Lab No.	221666		Client:	Altec Testing & Engineering, Inc. 6035 Fremont Riverside, CA 92504
Account Number:	A984			
Date Received:	05/20/2013			
Received By:	Joanna Mueller			
Date Analyzed:	05/22/2013		Project:	OHR Eliyahu Acadamy
Analyzed By:	Gayle Ooten		Project Location:	5950 Stone View Drive - Culiver City
Methodology:	EPA/600/R-93/116		Project Number:	603-2013060

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)		Non-Asbestos Fiber (%)	Non Fibrous
001	603-2013060-1	Homogeneous	Brown Floor Tile	Asbestos Present Chrysotile	8	NA	Vinyl CaCO3
002	603-2013060-2	Homogeneous	Black Mastic	Asbestos Present Chrysotile	3	NA	Tar
003	603-2013060-3	Homogeneous	Brown Floor Tile	Asbestos Present Chrysotile	8	NA	Vinyl CaCO3
004	603-2013060-4	Homogeneous	Black Mastic	Asbestos Present Chrysotile	3	NA	Tar
005	603-2013060-5	Homogeneous	Brown Floor Tile	Asbestos Present Chrysotile	8	NA	Vinyl CaCO3
006	603-2013060-6	Homogeneous	Black Mastic	Asbestos Present Chrysotile	3	NA	Tar
007	603-2013060-7	Homogeneous	Tan Floor Tile	Asbestos Present Chrysotile	6	NA	Vinyl CaCO3

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Polarized Light Microscopy Asbestos Analysis Report

QuanTEM Lab No. 221666
Account Number: A984
Date Received: 05/20/2013
Received By: Joanna Mueller
Date Analyzed: 05/22/2013
Analyzed By: Gayle Ooten
Methodology: EPA/600/R-93/116

Client: Altec Testing & Engineering, Inc.
6035 Fremont
Riverside, CA 92504

Project: OHR Eliyahu Acadamy
Project Location: 5950 Stone View Drive - Culiver City
Project Number: 603-2013060

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)		Non-Asbestos Fiber (%)		Non Fibrous
008	603-2013060-8	Homogeneous	Black Mastic	Asbestos Present Chrysotile	5	NA		Tar
009	603-2013060-9	Homogeneous	Tan Floor Tile	Asbestos Present Chrysotile	6	NA		Vinyl CaCO3
010	603-2013060-10	Homogeneous	Black Mastic	Asbestos Present Chrysotile	5	NA		Tar
011	603-2013060-11	Homogeneous	Tan Floor Tile	Asbestos Present Chrysotile	6	NA		Vinyl CaCO3
012	603-2013060-12	Homogeneous	Black Mastic	Asbestos Present Chrysotile	4	NA		Tar
013	603-2013060-13	Homogeneous	White Ceiling Tile	Asbestos Not Present		Cellulose	80	Paint
014	603-2013060-14	Homogeneous	White Ceiling Tile	Asbestos Not Present		Cellulose	80	Paint

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Methodology: EPA/600/R-93/116

Client: Altec Testing & Engineering, Inc.
6035 Fremont
Riverside, CA 92504

Project: OHR Eliyahu Acadamy
Project Location: 5950 Stone View Drive - Culiver City
Project Number: 603-2013060

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)		Non Fibrous
015	603-2013060-15	Homogeneous	White Ceiling Tile	Asbestos Not Present	Cellulose	80	Paint
016	603-2013060-16	Homogeneous	Brown Mastic	Asbestos Not Present	NA		Glue
017	603-2013060-17	Homogeneous	Brown Mastic	Asbestos Not Present	NA		Glue
018	603-2013060-18	Homogeneous	Brown Mastic	Asbestos Not Present	NA		Glue
019	603-2013060-19	Homogeneous	Brown Cove Base Mastic	Asbestos Not Present	Talc	3	Glue
020	603-2013060-20	Homogeneous	Brown Cove Base Mastic	Asbestos Not Present	Talc	3	Glue
021	603-2013060-21	Homogeneous	Brown Cove Base Mastic	Asbestos Not Present	Talc	3	Glue

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Riverside, CA 92504

Project: OHR Eliyahu Acadamy
Project Location: 5950 Stone View Drive - Culiver City
Project Number: 603-2013060

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
022	603-2013060-22	Homogeneous	Brown Floor Tile	Asbestos Not Present	NA	Vinyl CaCO3
023	603-2013060-23	Homogeneous	Black/Yellow Mastic	Asbestos Present Chrysotile 2	NA	Glue Tar
024	603-2013060-24	Homogeneous	Brown Floor Tile	Asbestos Not Present	NA	Vinyl CaCO3
025	603-2013060-25	Homogeneous	Black/Yellow Mastic	Asbestos Present Chrysotile 2	NA	Glue Tar
026	603-2013060-26	Homogeneous	Brown Floor Tile	Asbestos Not Present	NA	Vinyl CaCO3
027	603-2013060-27	Homogeneous	Black Mastic	Asbestos Present Chrysotile 2	NA	Glue Tar
028	603-2013060-28	Composite	White Joint Compound / Sheetrock	Asbestos Not Present	Cellulose 15	Gypsum CaCO3

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Methodology: EPA/600/R-93/116

Client: Altec Testing & Engineering, Inc.
6035 Fremont
Riverside, CA 92504

Project: OHR Eliyahu Acadamy
Project Location: 5950 Stone View Drive - Culiver City
Project Number: 603-2013060

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)		Non Fibrous
029	603-2013060-29	Composite	White Joint Compound / Sheetrock	Asbestos Not Present	Cellulose	20	Gypsum CaCO3
030	603-2013060-30	Composite	White Joint Compound / Sheetrock	Asbestos Not Present	Cellulose	15	Gypsum CaCO3
031	603-2013060-31	Composite	White/Gray Skim Coat / Plaster	Asbestos Not Present	NA		Quartz CaCO3 Paint
032	603-2013060-32	Composite	White/Gray Skim Coat / Plaster	Asbestos Not Present	NA		Quartz CaCO3 Paint
033	603-2013060-33	Composite	White/Gray Skim Coat / Plaster	Asbestos Not Present	NA		Quartz CaCO3 Paint
034	603-2013060-34	Homogeneous	White Pipe Covering	Asbestos Not Present	Cellulose	100	

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6035 Fremont
Riverside, CA 92504

Project: OHR Eliyahu Acadamy
Project Location: 5950 Stone View Drive - Culiver City
Project Number: 603-2013060

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)		Non-Asbestos Fiber (%)		Non Fibrous
035	603-2013060-35	Homogeneous	Gray Insulation	Asbestos Present		Glass Fiber	20	CaCO3
				Chrysotile	3			
				Amosite	5			
				Crocidolite	3			
036	603-2013060-36	Homogeneous	Tan Pipe Covering	Asbestos Not Present		Cellulose	100	
037	603-2013060-37	Homogeneous	White Pipe Covering	Asbestos Not Present		Cellulose	100	
038	603-2013060-38	Homogeneous	White Insulation	Asbestos Present		Glass Fiber	20	CaCO3
				Chrysotile	6			
				Amosite	3			
039	603-2013060-39	Homogeneous	Tan Pipe Covering	Asbestos Not Present		Cellulose	100	
040	603-2013060-40	Composite	White/Gray Skim Coat / Plaster	Asbestos Not Present		Cellulose	2	Quartz CaCO3 Paint

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QuanTEM is a NVLAP accredited TEM and PLM laboratory (Lab Code: 101959-0). This report relates only to the specific items tested. NVLAP accreditation applies only to analysis performed utilizing EPA/600/M4-82-020 and EPA/600/R-93/116 methods. This report may not be used to claim product endorsement by NVLAP or any other agency of the US Government. This report may not be reproduced except in full, without the written approval of the laboratory.

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6035 Fremont
Riverside, CA 92504

Project: OHR Eliyahu Acadamy
Project Location: 5950 Stone View Drive - Culiver City
Project Number: 603-2013060

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)		Non-Asbestos Fiber (%)		Non Fibrous
041	603-2013060-41	Composite	White/Gray Skim Coat / Plaster	Asbestos Not Present		Cellulose	2	Quartz CaCO3 Paint
042	603-2013060-42	Composite	White/Gray Skim Coat / Plaster	Asbestos Not Present		NA		Quartz CaCO3 Paint
043	603-2013060-43	Homogeneous	Brown Floor Tile	Asbestos Present Chrysotile	7	NA		Vinyl CaCO3
044	603-2013060-44	Homogeneous	Black Mastic	Asbestos Present Chrysotile	5	NA		Tar
045	603-2013060-45	Homogeneous	Beige Floor Tile	Asbestos Present Chrysotile	7	NA		Vinyl CaCO3
046	603-2013060-46	Homogeneous	Black Mastic	Asbestos Present Chrysotile	5	NA		Tar
047	603-2013060-47	Homogeneous	Gray Floor Tile	Asbestos Present Chrysotile	6	NA		Vinyl CaCO3

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Riverside, CA 92504

Project: OHR Eliyahu Acadamy
Project Location: 5950 Stone View Drive - Culiver City
Project Number: 603-2013060

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)		Non-Asbestos Fiber (%)		Non Fibrous
048	603-2013060-48	Homogeneous	Black Mastic	Asbestos Present Chrysotile	4	NA		Tar
049	603-2013060-49	Homogeneous	White Ceiling Tile	Asbestos Not Present		Cellulose	80	Paint
050	603-2013060-50	Homogeneous	Brown Cove Base Mastic	Asbestos Not Present		NA		Glue
051	603-2013060-51	Composite	White/Gray Skim Coat / Plaster	Asbestos Not Present		NA		Quartz CaCO3 Paint
052	603-2013060-52	Homogeneous	Brown Floor Tile	Asbestos Present Chrysotile	8	NA		Vinyl CaCO3
053	603-2013060-53	Homogeneous	Black Mastic	Asbestos Present Chrysotile	3	NA		Tar
054	603-2013060-54	Homogeneous	White Ceiling Tile	Asbestos Not Present		Cellulose	80	Paint

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Riverside, CA 92504

Project: OHR Eliyahu Acadamy
Project Location: 5950 Stone View Drive - Culiver City
Project Number: 603-2013060

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)		Non Fibrous
055	603-2013060-55	Homogeneous	Brown Cove Base Mastic	Asbestos Not Present	Talc	2	Glue
056	603-2013060-56	Composite	White/Gray Skim Coat / Plaster	Asbestos Not Present	NA		Quartz CaCO3 Paint
057	603-2013060-57	Composite	White Joint Compound / Sheetrock	Asbestos Not Present	Cellulose	3	Gypsum CaCO3
058	603-2013060-58	Composite	White Joint Compound / Sheetrock	Asbestos Not Present	Cellulose	2	Gypsum CaCO3
059	603-2013060-59	Composite	White Joint Compound / Sheetrock	Asbestos Not Present	Cellulose	3	Gypsum CaCO3
060	603-2013060-60	Homogeneous	White Pipe Wrap	Asbestos Not Present	Cellulose	100	

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Polarized Light Microscopy Asbestos Analysis Report

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6035 Fremont
Riverside, CA 92504

Project: OHR Eliyahu Acadamy
Project Location: 5950 Stone View Drive - Culiver City
Project Number: 603-2013060

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)		Non-Asbestos Fiber (%)		Non Fibrous
061	603-2013060-61	Homogeneous	White Insulation	Asbestos Present Chrysotile Amosite	 3 7	Glass Fiber	20	CaCO3
062	603-2013060-62	Homogeneous	Tan Pipe Covering	Asbestos Not Present		Cellulose	100	
063	603-2013060-63	Homogeneous	Brown Floor Tile	Asbestos Present Chrysotile	 8	NA		Vinyl CaCO3
064	603-2013060-64	Homogeneous	Black Mastic	Asbestos Present Chrysotile	 4	NA		Tar
065	603-2013060-65	Composite	White/Gray Skim Coat / Plaster	Asbestos Not Present		NA		Quartz CaCO3 Paint
066	603-2013060-66	Homogeneous	White Ceiling Tile	Asbestos Not Present		Cellulose	80	Paint
067	603-2013060-67	Homogeneous	Brown Cove Base Mastic	Asbestos Not Present		Talc	3	Glue

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Project: OHR Eliyahu Acadamy
Project Location: 5950 Stone View Drive - Culiver City
Project Number: 603-2013060

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
068	603-2013060-68	Layered	White Sheet Vinyl	Asbestos Not Present	Cellulose 20	Vinyl
068a		Layered	Yellow Mastic	Asbestos Not Present	NA	Glue
069	603-2013060-69	Layered	White Sheet Vinyl	Asbestos Not Present	Cellulose 20	Vinyl
069a		Layered	Yellow Mastic	Asbestos Not Present	NA	Glue
070	603-2013060-70	Layered	White Sheet Vinyl	Asbestos Not Present	Cellulose 20	Vinyl
070a		Layered	Yellow Mastic	Asbestos Not Present	NA	Glue
071	603-2013060-71	Homogeneous	Brown Floor Tile	Asbestos Present Chrysotile 6	NA	Vinyl CaCO3

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Project Number: 603-2013060

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)		Non-Asbestos Fiber (%)		Non Fibrous
072	603-2013060-72	Homogeneous	Black Mastic	Asbestos Present Chrysotile	4	NA		Tar
073	603-2013060-73	Composite	White Skim Coat / Plaster	Asbestos Not Present		NA		Quartz CaCO3 Paint
074	603-2013060-74	Homogeneous	Brown Cove Base Mastic	Asbestos Not Present		Talc	3	Glue
075	603-2013060-75	Homogeneous	White Ceiling Tile	Asbestos Not Present		Cellulose	80	Paint
076	603-2013060-76	Layered	Brown Floor Tile	Asbestos Present Chrysotile	7	NA		Vinyl CaCO3
077	603-2013060-77	Homogeneous	Black Mastic	Asbestos Present Chrysotile	5	NA		Tar

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Project Number: 603-2013060

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)		Non-Asbestos Fiber (%)		Non Fibrous
078	603-2013060-78	Composite	White/Gray Skim Coat / Plaster	Asbestos Not Present		NA		Quartz CaCO3 Paint
079	603-2013060-79	Homogeneous	Brown Cove Base Mastic	Asbestos Not Present		NA		Glue
080	603-2013060-80	Homogeneous	White Ceiling Tile	Asbestos Not Present		Cellulose	80	Paint
081	603-2013060-81	Homogeneous	Brown Floor Tile	Asbestos Present Chrysotile	8	NA		Vinyl CaCO3
082	603-2013060-82	Layered	Black Mastic	Asbestos Present Chrysotile	3	NA		Tar
083	603-2013060-83	Composite	White/Gray Skim Coat / Plaster	Asbestos Not Present		NA		Quartz CaCO3 Paint
084	603-2013060-84	Homogeneous	Brown Cove Base Mastic	Asbestos Not Present		Talc	3	Glue

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QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
085	603-2013060-85	Homogeneous	White Ceiling Tile	Asbestos Not Present	Cellulose 80	Paint
086	603-2013060-86	Homogeneous	Gray Stucco	Asbestos Not Present	NA	Quartz CaCO3 Paint
087	603-2013060-87	Homogeneous	Gray Stucco	Asbestos Not Present	NA	Quartz CaCO3 Paint
088	603-2013060-88	Homogeneous	Gray Stucco	Asbestos Not Present	NA	Quartz CaCO3 Paint
089	603-2013060-89	Homogeneous	Gray Window Glazing	Asbestos Not Present	NA	CaCO3
090	603-2013060-90	Homogeneous	Gray Window Glazing	Asbestos Present Chrysotile 2	NA	CaCO3

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QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
091	603-2013060-91	Homogeneous	Gray Window Glazing	Asbestos Not Present	Cellulose 3	Gypsum
092	603-2013060-92	Homogeneous	Gray Window Glazing	Asbestos Not Present	NA	CaCO3
093	603-2013060-93	Homogeneous	Gray Window Glazing	Asbestos Not Present	NA	CaCO3
094	603-2013060-94	Homogeneous	White Window Glazing	Asbestos Present Chrysotile 3	NA	CaCO3
095	603-2013060-95	Homogeneous	Gray Window Glazing	Asbestos Present Chrysotile 2	NA	CaCO3
096	603-2013060-96	Homogeneous	White Window Glazing	Asbestos Not Present	Cellulose 5	Gypsum
097	603-2013060-97	Composite	Black Roofing	Asbestos Not Present	Cellulose 20	Tar

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Analyzed By:	Gayle Ooten	Project Location:	5950 Stone View Drive - Culiver City
Methodology:	EPA/600/R-93/116	Project Number:	603-2013060

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)		Non Fibrous
098	603-2013060-98	Composite	Black Roofing	Asbestos Not Present	Cellulose	15	Tar
099	603-2013060-99	Composite	Black Roofing	Asbestos Not Present	Cellulose	15	Tar
100	603-2013060-100	Composite	Black Roofing	Asbestos Not Present	Cellulose	15	Tar
101	603-2013060-101	Composite	Black Roofing	Asbestos Not Present	Cellulose	20	Tar
102	603-2013060-102	Composite	Black Roofing	Asbestos Not Present	Cellulose	20	Tar
103	603-2013060-103	Composite	Black Roofing	Asbestos Not Present	Cellulose	20	Tar
104	603-2013060-104	Composite	Black Roofing	Asbestos Not Present	Cellulose	20	Tar

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

QUANTEM® LABORATORIES

2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Polarized Light Microscopy Asbestos Analysis Report

QuanTEM Lab No. 221666
Account Number: A984
Date Received: 05/20/2013
Received By: Joanna Mueller
Date Analyzed: 05/22/2013
Analyzed By: Gayle Ooten
Methodology: EPA/600/R-93/116

Client: Altec Testing & Engineering, Inc.
6035 Fremont
Riverside, CA 92504

Project: OHR Eliyahu Acadamy
Project Location: 5950 Stone View Drive - Culiver City
Project Number: 603-2013060

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)		Non-Asbestos Fiber (%)		Non Fibrous
105	603-2013060-105	Homogeneous	Black/Gray Tar	Asbestos Present Chrysotile	8	NA		Tar
106	603-2013060-106	Homogeneous	Black/Gray Tar	Asbestos Present Chrysotile	8	NA		Tar
107	603-2013060-107	Homogeneous	Black/Gray Tar	Asbestos Present Chrysotile	8	NA		Tar
108	603-2013060-108	Layered	Gray Shingle	Asbestos Not Present		Glass Fiber	20	Quartz Tar
108a		Layered	Black Tar Paper	Asbestos Not Present		Cellulose	30	Tar
109	603-2013060-109	Layered	Gray Shingle	Asbestos Not Present		Glass Fiber	20	Quartz Tar
109a		Layered	Black Tar Paper	Asbestos Not Present		Cellulose	40	Tar

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

QUANTEM LABORATORIES ®

2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Polarized Light Microscopy Asbestos Analysis Report

QuanTEM Lab No. 221666
Account Number: A984
Date Received: 05/20/2013
Received By: Joanna Mueller
Date Analyzed: 05/22/2013
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Methodology: EPA/600/R-93/116

Client: Altec Testing & Engineering, Inc.
6035 Fremont
Riverside, CA 92504

Project: OHR Eliyahu Acadamy
Project Location: 5950 Stone View Drive - Culiver City
Project Number: 603-2013060

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)		Non Fibrous
110	603-2013060-110	Layered	Gray Shingle	Asbestos Not Present	Glass Fiber	20	Quartz Tar
110a		Layered	Black Tar Paper	Asbestos Not Present	Cellulose	40	Tar

Gayle Ooten, Analyst

5/22/2013
Date of Report

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

QuanTEM is a NVLAP accredited TEM and PLM laboratory (Lab Code: 101959-0). This report relates only to the specific items tested. NVLAP accreditation applies only to analysis performed utilizing EPA/600/M4-82-020 and EPA/600/R-93/116 methods. This report may not be used to claim product endorsement by NVLAP or any other agency of the US Government. This report may not be reproduced except in full, without the written approval of the laboratory.

ALTEC TESTING & ENGINEERING, INC. - ASBESTOS BULK S...

CAB#221666 PAGE 1 OF 11

CLIENT NAME: UltraSystems
ALTEC CP NO.: 603-2013060
PROJECT: OHR Eliyahu Academy
ADDRESS: 5550 Stone View Drive - Culver City

SAMPLED BY: Yowell
DATE OF SURVEY: 5/16/13
SHIPPED VIA: ~~Fed~~ FED EX
DATE OF SHIPPING: 5/17/13

LABORATORY: Quantem
TURN AROUND TIME: 3 Day
TYPE OF ANALYSIS: PLM EPA 600

Sample No. (Sample Nos.'s will have CP No. as pre-fix)	Material Type and Description (type, size, color, pattern)	Material Sampling Area and Other Noted Locations	Building No.	Floor (B, 1, 2, 3, R)I	Total Material Square Footage	Type of Covering	Diameter (TSI)	Friable or Nonfriable Category	Condition	Accessibility	Activity	Friability	Exposed Area	LAB – Analyze to First Positive (Indicated by Sample Nos.)
1	Brown 9" UFT	Cafeteria (Bld 1 - Dinning Room	1	1	2,400			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
2	Black mastic							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
3	Brown 9" UFT							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
4	Black mastic							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
5	Brown 9" UFT	Room Adjacent to Stage						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
6	Black mastic							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
7	Tan 9" UFT	Kitchen AREA			606			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
8	Black mastic							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
9	Tan 9" UFT							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
10	Black mastic							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	

(1) SAMPLED BY: Jay R Yowell DATE 5/17/13 (2) RECEIVED BY: J Mueller DATE 5/20/13 10:00

(3) RECEIVED BY: DATE (4) RECEIVED BY: DATE

Nonfriable 1 = floor tile, Transite, roofing felt, mastic/adhesive, Nonfriable 2 = all other materials that are not friable and not Category I nonfriable, Small # = good or low, Large # = bad or high

ALTEC TESTING & ENGINEERING, INC. - ASBESTOS BULK SAMPLE CHAIN OF CUSTODY

#221666 PAGE 2 OF 11

CLIENT NAME: UltraSystems
ALTEC CP NO.: 603-2013060
PROJECT: OHR Eliyahu Academy
ADDRESS: 5550 Stone View Drive - Culver City

SAMPLED BY: Yowell
DATE OF SURVEY: 5/16/13
SHIPPED VIA: ~~EAD~~ FED EX
DATE OF SHIPPING: 5/17/13

LABORATORY:
TURN AROUND TIME:
TYPE OF ANALYSIS: PLM EPA 600

Sample No. (Sample Nos.'s will have CP No. as pre-fix)	Material Type and Description (type, size, color, pattern)	Material Sampling Area and Other Noted Locations	Building No.	Floor (B, 1, 2, 3, R)	Total Material Square Footage	Type of Covering	Diameter (TSI)	Friable or Nonfriable Category	Condition	Accessibility	Activity	Friability	Exposed Area	LAB – Analyze to First Positive (Indicated by Sample Nos.)
11	Tan 9" VFT							F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
12	Black mastic							F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
13	1x1 ~~Ceiling~~ Ceiling Tile	Throughout Blg 1			3,000			F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
14								F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
15								F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
16	1x1 CT Adhesive	* Dont Analyze ceiling tile						F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
17								F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
18								F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
19	Cove base Adh Brown	Throughout Blg 1 * Analyze Adh. Only			100			F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
20								F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	

(1) SAMPLED BY: Jay R Yowell DATE 5/17/13 (2) RECEIVED BY: DATE
(3) RECEIVED BY: DATE (4) RECEIVED BY: DATE

Nonfriable 1 = floor tile, Transite, roofing felt, mastic/adhesive, Nonfriable 2 = all other materials that are not friable and not Category I nonfriable, Small # = good or low, Large # = bad or hig

ALTEC TESTING & ENGINEERING, INC. - ASBESTOS BULK SAMPLE

#221666

CLIENT NAME: UltraSystems
ALTEC CP NO.: 603 - 2013060
PROJECT: OHR Eliyahu Academy
ADDRESS: 5550 Stone View Drive - Culver City

SAMPLED BY: Yowell
DATE OF SURVEY: 5/16/13
SHIPPED VIA: ~~Bad~~ FED EX
DATE OF SHIPPING: 5/17/13

LABORATORY: Quantem
TURN AROUND TIME: 3 DAY
TYPE OF ANALYSIS: PLM EPA 600

Sample No. (Sample Nos.'s will have CP No. as pre-fix)	Material Type and Description (type, size, color, pattern)	Material Sampling Area and Other Noted Locations	Building No.	Floor (B, 1, 2, 3, R)l	Total Material Square Footage	Type of Covering	Diameter (TSI)	Friable or Nonfriable Category	Condition	Accessibility	Activity	Friability	Exposed Area	LAB – Analyze to First Positive (Indicated by Sample Nos.)
21								F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
22	12'' orange UFT	Area Adjacent to stage			50			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
23	Black mastic							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
24	12'' orange UFT							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
25	Black mastic							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
26	12'' orange UFT ~~Black~~							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
27	Black mastic							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
28	DW/JC composite	Ceiling - above ceiling Tile			3,000			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
29								F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
30								F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	

(1) SAMPLED BY: Jay R Yowell DATE ______ (2) RECEIVED BY: ______ DATE ______
(3) RECEIVED BY: ______ DATE ______ (4) RECEIVED BY: ______ DATE ______

Nonfriable 1 = floor tile, Transite, roofing felt, mastic/adhesive, Nonfriable 2 = all other materials that are not friable and not Category I nonfriable, Small # = good or low, Large # = bad or hig

ALTEC TESTING & ENGINEERING, INC. - ASBESTOS BULK SAMPLE

#221666

CLIENT NAME: UltraSystems
ALTEC CP NO.: 603-2013060
PROJECT: OHR Eliyahu Academy
ADDRESS: 5550 Stone View Drive - Culver City

SAMPLED BY: Yowell
DATE OF SURVEY: 5/16/13
SHIPPED VIA: [illegible]
DATE OF SHIPPING: 5/17/13

LABORATORY:
TURN AROUND TIME:
TYPE OF ANALYSIS: PLM EPA 600

Sample No. (Sample Nos.'s will have CP No. as pre-fix)	Material Type and Description (type, size, color, pattern)	Material Sampling Area and Other Noted Locations	Building No.	Floor (B, 1, 2, 3, R)	Total Material Square Footage	Type of Covering	Diameter (TSI)	Friable or Nonfriable Category	Condition	Accessibility	Activity	Friability	Exposed Area	LAB – Analyze to First Positive (Indicated by Sample Nos.)
31	Plaster composite	Throughout Blg 1						F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
32								F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
33								F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
34	White Pipe Cover	Kitchen Area above Ceiling - Elbows			10 Fittings			F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
35	White TSI							F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
36	Tan Pipe Jacket	Straight Pipe			500 LF			F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
37	~~Tan Pipe Jacket~~ White pipe Cover	Building #2 Restrooms above ceiling	#2 Restrooms	1	6 Fittings			F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
38	White TSI			1	~~100~~ LF			F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
39	Tan Pipe ~~good~~ Jacket			1	100 LF			F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	
40	Plaster Composite	Throughout Blg 2						F / N 1 2	0 / 3 5	0 / 1 2	0 / 1 2	0 1 / 3 5	0 / 1 4	

(1) SAMPLED BY: Jay R Yowell DATE 5/17/13 (2) RECEIVED BY: DATE

(3) RECEIVED BY: DATE (4) RECEIVED BY: DATE

Nonfriable 1 = floor tile, Transite, roofing felt, mastic/adhesive, Nonfriable 2 = all other materials that are not friable and not Category I nonfriable, Small # = good or low, Large # = bad or high

ALTEC TESTING & ENGINEERING, INC. - ASBESTOS BULK SAMPLE CHAIN OF CUSTODY

CLIENT NAME: UltraSystems
ALTEC CP NO.: 603-2013060
PROJECT: OHR Eliyahu Academy
ADDRESS: 5550 Stone View Drive - Culver City

SAMPLED BY: Yowell
DATE OF SURVEY: 5/16/13
SHIPPED VIA: Bad
DATE OF SHIPPING:

#221666

PAGE 5 OF 11

LABORATORY:
TURN AROUND TIME:
TYPE OF ANALYSIS: PLM EPA 600

Sample No. (Sample Nos.'s will have CP No. as pre-fix)	Material Type and Description (type, size, color, pattern)	Material Sampling Area and Other Noted Locations	Building No.	Floor (B, 1, 2, 3, R)	Total Material Square Footage	Type of Covering	Diameter (TSI)	Friable or Nonfriable Category	Condition	Accessibility	Activity	Friability	Exposed Area	LAB – Analyze to First Positive (Indicated by Sample Nos.)
41			2	1				F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
42				1				F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
43	Brown 9x9	Building 3 - Throughout	3		1,800			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
44	Black mastic							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
45	Cream 9x9							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
46	Black mastic							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
47	gray 9x9							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
48	Black mastic							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
49	1x1 ceiling Tile							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
50	Brown cove Base Adh				25			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	

(1) SAMPLED BY: Jay R Yowell DATE 5/17/13 (2) RECEIVED BY: DATE
(3) RECEIVED BY: DATE (4) RECEIVED BY: DATE

Nonfriable 1 = floor tile, Transite, roofing felt, mastic/adhesive, Nonfriable 2 = all other materials that are not friable and not Category I nonfriable, Small # = good or low, Large # = bad or high

ALTEC TESTING & ENGINEERING, INC. - ASBESTOS BULK

#221666 PAGE 6 OF 11

CLIENT NAME: UltraSystems
ALTEC CP NO.: 603-2013060
PROJECT: OHR Eliyahu Academy
ADDRESS: 5550 Stone View Drive - Culver City

SAMPLED BY: Yowell
DATE OF SURVEY: 5/16/13
SHIPPED VIA: [illegible]
DATE OF SHIPPING:

LABORATORY:
TURN AROUND TIME:
TYPE OF ANALYSIS: PLM EPA 600

Sample No. (Sample Nos.'s will have CP No. as pre-fix)	Material Type and Description (type, size, color, pattern)	Material Sampling Area and Other Noted Locations	Building No.	Floor (B, 1, 2, 3, R)!	Total Material Square Footage	Type of Covering	Diameter (TSI)	Friable or Nonfriable Category	Condition	Accessibility	Activity	Friability	Exposed Area	LAB – Analyze to First Positive (Indicated by Sample Nos.)
51	Plaster composite	Sofit Areas	3	1	100			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
52	Brown 9" UFT	Building # 4 Throughout	4		1,800			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
53	Black mastic							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
54	1x1 Ceiling Tile				40			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
55	Brown Cove base Adh				100			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
56	Plaster Composite	Sofits						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
57	DW/JC Composite	Class Room Dividing Walls			600			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
58								F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
59								F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
60	White Pipe Wrap	Building # 5 above Ceiling			10 Fittings			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	

(1) SAMPLED BY: Jay R Yowell DATE 5/17/13 (2) RECEIVED BY: DATE
(3) RECEIVED BY: DATE (4) RECEIVED BY: DATE

Nonfriable 1 = floor tile, Transite, roofing felt, mastic/adhesive, Nonfriable 2 = all other materials that are not friable and not Category I nonfriable, Small # = good or low, Large # = bad or hi

ALTEC TESTING & ENGINEERING, INC. - ASBESTOS B...

#221666

CLIENT NAME: UltraSystems
ALTEC CP NO.: 603-2013060
PROJECT: OHR Eliyahu Academy
ADDRESS: 5550 Stone View Drive - Culver City

SAMPLED BY: Yowell
DATE OF SURVEY: 5/16/13
SHIPPED VIA: [illegible]
DATE OF SHIPPING:

LABORATORY:
TURN AROUND TIME:
TYPE OF ANALYSIS: PLM EPA 600

Sample No. (Sample Nos.'s will have CP No. as pre-fix)	Material Type and Description (type, size, color, pattern)	Material Sampling Area and Other Noted Locations	Building No.	Floor (B, 1, 2, 3, R)	Total Material Square Footage	Type of Covering	Diameter (TSI)	Friable or Nonfriable Category	Condition	Accessibility	Activity	Friability	Exposed Area	LAB – Analyze to First Positive (Indicated by Sample Nos.)
61	White TSI	Building 5	5					F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
62	Tan pipe Jacket				200 LF			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
63	Brown 9x9 UFT				2,500			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
64	Black mastic							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
65	Plaster composite				1,000			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
66	1x1 ceiling Tile				2,300			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
67	Brown cove Base Adh				100			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
68	White RSF	Counter tops			200			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
69								F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
70								F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	

(1) SAMPLED BY: Jay R Yowell DATE 5/17/13 (2) RECEIVED BY: DATE

(3) RECEIVED BY: DATE (4) RECEIVED BY: DATE

Nonfriable 1 = floor tile, Transite, roofing felt, mastic/adhesive, Nonfriable 2 = all other materials that are not friable and not Category I nonfriable, Small # = good or low, Large # = bad or hi

ALTEC TESTING & ENGINEERING, INC. - ASBESTOS BULK SAMPLE CH...

#221666

CLIENT NAME: UltraSystems
ALTEC CP NO.: 603 - 2013060
PROJECT: OHR Eliyahu Academy
ADDRESS: 5550 Stone View Drive - Culver City

SAMPLED BY: Yowell
DATE OF SURVEY: 5/16/13
SHIPPED VIA: [illegible]
DATE OF SHIPPING: 5/17/13

LABORATORY:
TURN AROUND TIME:
TYPE OF ANALYSIS: PLM EPA 600

Sample No. (Sample Nos.'s will have CP No. as pre-fix)	Material Type and Description (type, size, color, pattern)	Material Sampling Area and Other Noted Locations	Building No.	Floor (B, 1, 2, 3, R)	Total Material Square Footage	Type of Covering	Diameter (TSI)	Friable or Nonfriable Category	Condition	Accessibility	Activity	Friability	Exposed Area	LAB – Analyze to First Positive (Indicated by Sample Nos.)
71	Brown 9X9 VFT	Building 6 - Throughout			900			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
72	Black mastic	↓						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
73	Plaster composite	SOFIT			40			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
74	Brown cove base Adh	Throughout			20			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
75	1x1 ceiling Tile	↓			900			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
76	Brown 9x9	Building 7 - Throughout			900			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
77	Black mastic	↓			↓			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
78	Plaster composite	SOFIT			40			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
79	Brown cove base Adh	Throughout			20			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
80	1x1 Ceiling Tile	↓			900			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	

(1) SAMPLED BY: Jay R Yowell DATE 5/17/13 (2) RECEIVED BY: DATE

(3) RECEIVED BY: DATE (4) RECEIVED BY: DATE

Nonfriable 1 = floor tile, Transite, roofing felt, mastic/adhesive, Nonfriable 2 = all other materials that are not friable and not Category I nonfriable, Small # = good or low, Large # = bad or hi

ALTEC TESTING & ENGINEERING, INC. - ASBESTOS BULK

#221666

CLIENT NAME: UltraSystems
ALTEC CP NO.: 603-2013060
PROJECT: OHR Eliyahu Acadamy
ADDRESS: 5550 Stone View Drive - Culver City

SAMPLED BY: Yowell
DATE OF SURVEY: 5/16/13
SHIPPED VIA: ~~Fed~~ FED EX
DATE OF SHIPPING: 5/17/13

LABORATORY:
TURN AROUND TIME:
TYPE OF ANALYSIS: PLM EPA 600

Sample No. (Sample Nos.'s will have CP No. as pre-fix)	Material Type and Description (type, size, color, pattern)	Material Sampling Area and Other Noted Locations	Building No.	Floor (B, 1, 2, 3, R)	Total Material Square Footage	Type of Covering	Diameter (TSI)	Friable or Nonfriable Category	Condition	Accessibility	Activity	Friability	Exposed Area	LAB – Analyze to First Positive (Indicated by Sample Nos.)
81	Brown 9" VFT	Throughout Building 8 - Office			900			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
82	Black mastic							F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
83	Plaster composite				1,000			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
84	Brown cove base adh				50			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
85	1x1 Ceiling Tile				900			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
86	~~Breeze way~~ Stucco	Breezway			2,500			F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
87								F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
88								F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
89	Window Glazing	Building 1						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
90		Building 2						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	

(1) SAMPLED BY: Jay R Yowell DATE 5/17/13 (2) RECEIVED BY: DATE
(3) RECEIVED BY: DATE (4) RECEIVED BY: DATE

Nonfriable 1 = floor tile, Transite, roofing felt, mastic/adhesive, Nonfriable 2 = all other materials that are not friable and not Category I nonfriable, Small # = good or low, Large # = bad or hi

ALTEC TESTING & ENGINEERING, INC. - ASBESTOS BULK

#221666

PAGE 10 OF 11

CLIENT NAME: UltraSystems
ALTEC CP NO.: 603-2013060
PROJECT: OHR Eliyahu Academy
ADDRESS: 5550 Stone View Drive - Culver City

SAMPLED BY: Yowell
DATE OF SURVEY: 5/16/13
SHIPPED VIA: ~~Bad~~ FED EX
DATE OF SHIPPING: 5/17/13

LABORATORY: Quantem
TURN AROUND TIME: 3 Day
TYPE OF ANALYSIS: PLM EPA 600

Sample No. (Sample Nos.'s will have CP No. as pre-fix)	Material Type and Description (type, size, color, pattern)	Material Sampling Area and Other Noted Locations	Building No.	Floor (B, 1, 2, 3, R)I	Total Material Square Footage	Type of Covering	Diameter (TSI)	Friable or Nonfriable Category	Condition	Accessibility	Activity	Friability	Exposed Area	LAB – Analyze to First Positive (Indicated by Sample Nos.)
91		Building # 3						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
92		Building # 4						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
93		Building # 5						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
94		Building # 6						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
95		Building # 7						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
96		Building # 8						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
97	Roof Composite	* Sample as core Building 1						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
98		2						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
99		4						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
100		5						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	

(1) SAMPLED BY: Jay R Yowell DATE 5/17/13 (2) RECEIVED BY: DATE

(3) RECEIVED BY: DATE (4) RECEIVED BY: DATE

Nonfriable 1 = floor tile, Transite, roofing felt, mastic/adhesive, Nonfriable 2 = all other materials that are not friable and not Category I nonfriable, Small # = good or low, Large # = bad or hi

ALTEC TESTING & ENGINEERING, INC. - ASBESTOS BULK SAMPLE CHAIN OF CUSTODY (COC)

CLIENT NAME: Ultra Systems
SAMPLED BY: Yowell
#221666
PAGE 11 OF 11

ALTEC CP NO.: 603-2013060
DATE OF SURVEY: 5/16/13
LABORATORY: QuanTem

PROJECT: OHR Eli Yahu Acadamy
SHIPPED VIA:
TURN AROUND TIME: 3 Day

ADDRESS: 5550 Stone View drive - Culver City
DATE OF SHIPPING: 5/17/13
TYPE OF ANALYSIS: PLM EPA 600

Sample No. (Sample Nos.'s will have CP No. as pre-fix)	Material Type and Description (type, size, color, pattern)	Material Sampling Area and Other Noted Locations	Building No.	Floor (B, 1, 2, 3, R)	Total Material Square Footage	Type of Covering	Diameter (TSI)	Friable or Nonfriable Category	Condition	Accessibility	Activity	Friability	Exposed Area	LAB – Analyze to First Positive (Indicated by Sample Nos.)
101		Building 6						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
102		Building 7						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
103		Building 8						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
104		Breezeway						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
105	Gray/Black Patching tar	Throughout structures Roof Penetrations & Flashing						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
106								F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
107								F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
108	Black Shingle/ Felt	Building 4						F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
109								F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	
110								F N 1 2	0 3 5	0 1 2	0 1 2	0 1 3 5	0 1 4	

(1) SAMPLED BY: Jay A Yowell DATE 5/17/13 (2) RECEIVED BY: DATE

(3) RECEIVED BY: DATE (4) RECEIVED BY: DATE

Nonfriable 1 = floor tile, Transite, roofing felt, mastic/adhesive, Nonfriable 2 = all other materials that are not friable and not Category I nonfriable, Small # = good or low, Large # = bad or high

Appendix C – Laboratory Certifications

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101959-0

QuanTEM Laboratories, LLC
Oklahoma City, OK

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

BULK ASBESTOS FIBER ANALYSIS

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2012-10-01 through 2013-09-30
Effective dates

DEPARTMENT OF COMMERCE ★ UNITED STATES OF AMERICA ★

For the National Institute of Standards and Technology

NVLAP-01C (REV. 2009-01-28)

NVLAP® National Voluntary Laboratory Accreditation Program

DEPARTMENT OF COMMERCE ★ UNITED STATES OF AMERICA ★

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

QuanTEM Laboratories, LLC
2033 Heritage Park Drive
Oklahoma City, OK 73120-7579
Mr. John E. Barnett
Phone: 405-755-7272 Fax: 405-755-2058
E-Mail: jbarnett@quantem.com
URL: http://www.quantem.com

BULK ASBESTOS FIBER ANALYSIS (PLM) **NVLAP LAB CODE 101959-0**

NVLAP Code	***Designation / Description***
18/A01	EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples

2012-10-01 through 2013-09-30
Effective dates

For the National Institute of Standards and Technology

NVLAP-01S (REV. 2005-05-19)

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101959-0

QuanTEM Laboratories, LLC

Oklahoma City, OK

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

AIRBORNE ASBESTOS FIBER ANALYSIS

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

DEPARTMENT OF COMMERCE ★ UNITED STATES OF AMERICA ★

2012-10-01 through 2013-09-30

Effective dates

For the National Institute of Standards and Technology

NVLAP-01C (REV. 2009-01-28)

NVLAP® National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

QuanTEM Laboratories, LLC
2033 Heritage Park Drive
Oklahoma City, OK 73120-7579
Mr. John E. Barnett
Phone: 405-755-7272 Fax: 405-755-2058
E-Mail: jbarnett@quantem.com
URL: http://www.quantem.com

AIRBORNE ASBESTOS FIBER ANALYSIS (TEM) **NVLAP LAB CODE 101959-0**

NVLAP Code	*Designation / Description*
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

2012-10-01 through 2013-09-30
Effective dates

For the National Institute of Standards and Technology

NVLAP-01S (REV. 2005-05-19)

CDPH
PublicHealth

CALIFORNIA STATE

ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM BRANCH

CERTIFICATE OF ENVIRONMENTAL ACCREDITATION

Is hereby granted to

QuanTEM Laboratories, LLC

2033 Heritage Park Drive

Oklahoma City, OK 73120

Scope of the certificate is limited to the
"Fields of Testing"
which accompany this Certificate.

Continued accredited status depends on successful completion of on-site, proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **2392**

Expiration Date: **11/30/2013**

Effective Date: **12/01/2011**

George C. Kulasingam

Richmond, California
subject to forfeiture or revocation

George C. Kulasingam, Ph.D., Chief
Environmental Laboratory Accreditation Program Branch

CDPH

RON CHAPMAN, MD, MPH
Director

State of California—Health and Human Services Agency

California Department of Public Health

EDMUND G. BROWN JR.
Governor

November 2, 2011

Jeffrey M. Mlekush
QuanTEM Laboratories, LLC
2033 Heritage Park Drive
Oklahoma City, OK 73120

Dear Jeffrey M. Mlekush: Certificate No. 2392

This is to advise you that the laboratory named above continues to be certified as an environmental testing laboratory pursuant to the provisions of the Health and Safety Code (HSC), Division 101, Part 1, Chapter 4, Section 100825, et seq. Certification for all currently certified Fields of Testing that the laboratory has applied for renewal shall remain in effect until **11/30/2013** unless it is revoked.

Please note that the renewal application for certification is subject to an on-site process, and the continued use of this certificate is contingent upon:

- **successful completion of the on-site process;**
- **acceptable performance in the required proficiency testing (PT) studies;**
- **timely payment of all fees, including an annual fee due before November 30, 2012;**
- **compliance with Environmental Laboratory Accreditation Program Branch (ELAP) statutes (HSC, Section 100825, et seq.) and Regulations (California Code of Regulations (CCR),Title 22, Division 4, Chapter 19).**

An updated certificate of the "Fields of Testing" will be issued to the laboratory upon successful completion of the on-site process.

The application for the renewal of this certificate must be received before the expiration date to remain in force according to the HSC100845(a).

Please note that the laboratory is required to notify ELAP of any major changes in the laboratory such as the transfer of ownership, change of laboratory director, change in location, or structural alterations which may affect adversely the quality of analyses (HSC, Section 100845(b)(d)). Please include the above certificate number in all your correspondence with ELAP.

If you have any questions, please contact ELAP at (510) 620-3155.

Sincerely,

George C. Kulasingam

George C. Kulasingam, Ph.D., Chief
Environmental Laboratory Accreditation Program Branch

ilac-MRA

AIHA
Laboratory Accreditation Programs, LLC

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

QuanTEM Laboratories

2033 Heritage Park Drive, Oklahoma City, OK 73120

Laboratory ID: 101352

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories in* the following:

LABORATORY ACCREDITATION PROGRAMS

√	**INDUSTRIAL HYGIENE**	Accreditation Expires: 07/01/2013
√	**ENVIRONMENTAL LEAD**	Accreditation Expires: 07/01/2013
√	**ENVIRONMENTAL MICROBIOLOGY**	Accreditation Expires: 07/01/2013
☐	**FOOD**	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Christine Powell

Christine Powell

Chairperson, Analytical Accreditation Board

Cheryl O. Morton

Cheryl O. Morton

Director, AIHA Laboratory Accreditation Programs, LLC

Revision 10: 01/13/2011

Date Issued: 07/01/2011

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

QuanTEM Laboratories
2033 Heritage Park Drive, Oklahoma City, OK 73120

Laboratory ID: **101352**
Issue Date: 07/01/2011

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or revocation. A complete listing of currently accredited Industrial Hygiene laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 07/01/2011

IHLAP Scope Category	Field of Testing (FoT)	Technology sub-type/ Detector	Published Reference Method/Title of In-house Method	Method Description or Analyte (*for internal methods only)*
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)		NIOSH 7400	

The laboratory participates in the following AIHA-LAP, LLC-approved proficiency testing programs:

- ❑ AIHA-PAT Programs, LLC IHPAT Metals
- ❑ AIHA-PAT Programs, LLC IHPAT Organic Solvents
- ❑ AIHA-PAT Programs, LLC IHPAT Silica
- ❑ AIHA-PAT Programs, LLC IHPAT Diffusive Sampler (3M)
- ❑ AIHA-PAT Programs, LLC IHPAT Diffusive Sampler (SKC)
- ❑ AIHA-PAT Programs, LLC IHPAT Diffusive Sampler (AT)
- √ AIHA-PAT Programs, LLC IHPAT Asbestos
- ❑ AIHA-PAT Programs, LLC Bulk Asbestos (BAPAT)
- ❑ AIHA-PAT Programs, LLC Beryllium (BePAT)
- ❑ HSE Workplace Analytical Scheme for Proficiency (WASP) (Formaldehyde)
- ❑ HSE Workplace Analytical Scheme for Proficiency (WASP) (Thermal Desorption Tubes)
- ❑ Pharmaceutical Round Robin
- ❑ Compressed/Breathing Air Round Robin
- ❑ National Voluntary Laboratory Accreditation Program (NVLAP - determined at the time of site assessment)
- ❑ New York State Department of Health (NYS DOH – PCM and TEM)
- ❑ ERA Air and Emissions standards for indoor air quality
- ❑ Institut für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung (IFA, formerly BGIA)
- ❑ Institut de Recherche Robert-Sauvé en Santé et en Sécurité du Travail (IRSST)

AIHA
Laboratory Accreditation Programs, LLC

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

QuanTEM Laboratories
2033 Heritage Park Drive, Oklahoma City, OK 73120

Laboratory ID: **101352**
Issue Date: 07/01/2011

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or revocation. A complete listing of currently accredited Environmental Lead laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

The EPA recognizes the AIHA-LAP, LLC ELLAP program as meeting the requirements of the National Lead Laboratory Accreditation Program (NLLAP) established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 and includes paint, soil and dust wipe analysis. Air analysis is not included as part of the NLLAP.

Environmental Lead Laboratory Accreditation Program (ELLAP)

Initial Accreditation Date: 01/31/1995

Field of Testing (FoT)	Method	Method Description *(for internal methods only)*
Airborne Dust	EPA SW-846 7420	
Paint	NIOSH 7082 Modified	
Settled Dust by Wipe	NIOSH 9100	
Soil	EPA SW-846 7420	

The laboratory participates in the following AIHA-LAP, LLC-approved proficiency testing programs:

- √ Paint
- √ Soil
- √ Settled Dust by Wipe
- √ Airborne Dust

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

QuanTEM Laboratories
2033 Heritage Park Drive, Oklahoma City, OK 73120

Laboratory ID: **101352**
Issue Date: 07/01/2011

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or revocation. A complete listing of currently accredited Environmental Microbiology laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

Environmental Microbiology Laboratory Accreditation Program (EMLAP)

Initial Accreditation Date: 09/01/2006

EMLAP Category	Field of Testing (FoT)	Method	Method Description *(for internal methods only)*
Fungal	Air - Culturable	MM007R2	Impaction Plate
	Bulk - Culturable	MM006R2	Bulk
	Surface - Culturable	MM004R2	Swab
		MM009R1	Contact Agar
		MM012R1	Settled Dust/Carpet
	Air - Direct Examination	MM001R2	Spore Trap
	Bulk - Direct Examination	MM005R2	Bulk
	Surface - Direct Examination	MM002R2	Tape Lift
		MM003R2	Swab
		MM011R2	Settled Dust/Carpet

The laboratory participates in the following AIHA-LAP, LLC-approved proficiency testing programs:

- √ Fungal Culturable
- ☐ Bacterial Culturable
- √ Fungal Direct Examination

Appendix D – RMD LPA-1 XRF Performance Characteristic Sheets

Performance Characteristic Sheet

EFFECTIVE DATE: October 24, 2000 EDITION NO.: 4

MANUFACTURER AND MODEL:

Make: *Radiation Monitoring Devices*
Model: *LPA-1*
Source: ^{57}Co
Note: This sheet supersedes all previous sheets for the XRF instrument of the make, model, and source shown above ***for instruments sold or serviced after June 26, 1995. For other instruments, see prior editions.***

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS

Quick mode or nominal 30-second standard mode readings.

XRF CALIBRATION CHECK LIMITS

0.7 to 1.3 mg/cm^2 (inclusive)

SUBSTRATE CORRECTION:

For XRF results below 4.0 mg/cm^2, substrate correction is recommended for:

Metal using 30-second standard mode readings.

None using quick mode readings.

Substrate correction is not needed for:

Brick, Concrete, Drywall, Plaster, and Wood using 30-second standard mode readings

Brick, Concrete, Drywall, Metal, Plaster, and Wood using quick mode readings

THRESHOLDS:

30-SECOND STANDARD MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm^2)
Results corrected for substrate bias on metal substrate only	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	0.9
	Plaster	1.0
	Wood	1.0

QUICK MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm^2)
Readings not corrected for substrate bias on any substrate	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Testing was conducted on approximately 150 test locations in July 1995. The instrument that performed testing in September had a new source installed in June 1995 with 12 mCi initial strength.

OPERATING PARAMETERS:

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm ^{2} in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds

SUBSTRATE CORRECTION VALUE COMPUTATION

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm ^{2} for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm ^{2} at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

> Using the same XRF instrument, take three readings on a <u>bare</u> substrate area covered with the NIST SRM paint film nearest 1 mg/cm ^{2}. Repeat this procedure by taking three more readings on a second <u>bare</u> substrate area of the same substrate covered with the NIST SRM.
>
> Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.
>
> <u>For each substrate type</u> (the 1.02 mg/cm^2 NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):
>
> Correction value = (1st + 2nd + 3rd + 4th + 5th + 6th *Reading*) / 6 - 1.02 mg/cm^2
>
> Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use either 15-second readings or 60-second readings.

Conduct XRF re-testing at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family housing a result is defined as the average of three readings. In multifamily housing, a result is a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten re-test XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

BIAS AND PRECISION:

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with reported laboratory results less than 4.0 mg/cm^2 lead. The data which were used to determine the bias and precision estimates given in the table below have the following properties. During the July 1995 testing, there were 15 test locations with a laboratory-reported result equal to or greater than 4.0 mg/cm^2 lead. Of these, one 30-second standard mode reading was less than 1.0 mg/cm^2 and none of the quick mode readings were less than 1.0 mg/cm^2. The instrument that tested in July is representative of instruments sold or serviced after June 26, 1995. These data are for illustrative purposes only. Actual bias must be determined on the site. Results provided above already account for bias and precision. Bias and precision ranges are provided to show the variability found between machines of the same model.

30-SECOND STANDARD MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	0.0	0.1
	Concrete	0.0	0.1
	Drywall	0.1	0.1
	Metal	0.3	0.1
	Plaster	0.1	0.1
	Wood	0.0	0.1
0.5 mg/cm²	Brick	0.0	0.2
	Concrete	0.0	0.2
	Drywall	0.0	0.2
	Metal	0.2	0.2
	Plaster	0.0	0.2
	Wood	0.0	0.2
1.0 mg/cm²	Brick	0.0	0.3
	Concrete	0.0	0.3
	Drywall	0.0	0.3
	Metal	0.2	0.3
	Plaster	0.0	0.3
	Wood	0.0	0.3
2.0 mg/cm²	Brick	-0.1	0.4
	Concrete	-0.1	0.4
	Drywall	-0.1	0.4
	Metal	0.1	0.4
	Plaster	-0.1	0.4
	Wood	-0.1	0.4

*Precision at 1 standard deviation.

CLASSIFICATION RESULTS:

XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, and negative if they are less than the lower boundary of the inconclusive range, or inconclusive if in between. The inconclusive range includes both its upper and lower bounds. Earlier editions of this *XRF Performance Characteristics Sheet* did not include both bounds of the inconclusive range as "inconclusive." While this edition of the Performance Characteristics Sheet uses a different system, the specific XRF readings that are considered positive, negative, or inconclusive for a given XRF model and substrate remain unchanged, so previous inspection results are not affected.

DOCUMENTATION:

An EPA document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD. A HUD document titled *A Nonparametric Method for Estimating the 5th and 95th Percentile Curves of Variable-Time XRF Readings Based on Monotone Regression* provides supplemental information on the methodology for variable-time XRF instruments. A copy of this document can be obtained from the HUD lead web site, www.hud.gov/lea.

This edition of the XRF Performance Characteristic Sheet was developed by QuanTech, Inc., under a contract from the U.S. Department of Housing and Urban Development (HUD). HUD has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*

Appendix E – Inspector Certificates

STATE OF CALIFORNIA Edmund G. Brown, Jr. *Governor*

DEPARTMENT OF INDUSTRIAL RELATIONS
Division of Occupational Safety and Health
Asbestos Unit
2424 Arden Way, Suite 485
Sacramento, CA 95825-2417
(916) 574-2993 Office (916) 483-0572 Fax
http://www.dir.ca.gov/dirdatabases.html actu@dir.ca.gov

207200495C **17**

June 28, 2012

Lynn Ann Laborde
25101 Bear Valley Road, PMB198
Tehachapi ' CA 93561

Dear Certified Asbestos Consultant or Technician:

Enclosed is your certification card. **To maintain your certification, you must abide by the rules printed on the back of the certification card.**

Your certification is valid for a period of one year. If you wish to renew your certification, you must apply for renewal at least 60 days before the expiration date shown on your card. [8 CCR 341.15(h)(1)].

Please hold and do not send copies of your required AHERA refresher renewal certificates to our office until you apply for renewal of your certification.

Certificates must be kept current if you are actively working as a CAC or CSST. The grace period is only for those who are not actively working as an asbestos consultant or site surveillance technician.

Please contact our office at the above address, fax number or email; of any changes in your contact/mailing information within 15 days of the change.

Sincerely,

Jeff Ferrell
Senior Safety Engineer

Attachment: Certification Card

cc: File

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

Lynn Ann Laborde
Name

Certification No. **92-0495**

Expires on **08/13/13**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

State of California Department of Public Health

Lead-Related Construction Certificate

Certificate Type	Expiration Date
Inspector/Assessor	12/08/2013
Project Monitor	12/08/2013

Lynn A. Laborde ID #: 7203

STATE OF CALIFORNIA
Edmund G. Brown, Jr. *Governor*

DEPARTMENT OF INDUSTRIAL RELATIONS
Division of Occupational Safety and Health
Asbestos Unit
2424 Arden Way, Suite 485
Sacramento, CA 95825-2417
(916) 574-2993 Office (916) 483-0572 Fax
http://www.dir.ca.gov/dirdatabases.html actu@dir.ca.gov

711242295C **154**

ALTEC Testing & Engineering
Jay Adam Yowell
6035 Fremont Street
Riverside ' CA 92504

October 25, 2012

Dear Certified Asbestos Consultant or Technician:

Enclosed is your certification card. **To maintain your certification, you must abide by the rules printed on the back of the certification card.**

Your certification is valid for a period of one year. If you wish to renew your certification, you must apply for renewal at least 60 days before the expiration date shown on your card. [8 CCR 341.15(h)(1)].

Please hold and do not send copies of your required AHERA refresher renewal certificates to our office until you apply for renewal of your certification.

Certificates must be kept current if you are actively working as a CAC or CSST. The grace period is only for those who are not actively working as an asbestos consultant or site surveillance technician.

Please contact our office at the above address, fax number or email; of any changes in your contact/mailing information within 15 days of the change.

Sincerely,

Jeff Ferrell
Senior Safety Engineer

Attachment: Certification Card

cc: File

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

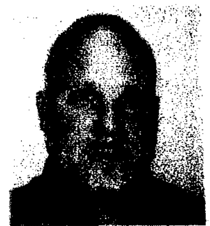
Jay Adam Yowell
Name
Certification No. **97-2295**
Expires on **12/08/13**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

Mr. Jay A. Yowell
ALTEC Testing & Engineering, Inc.
6035 Fremont Street
Riverside, California 92504

State of California Department of Public Health

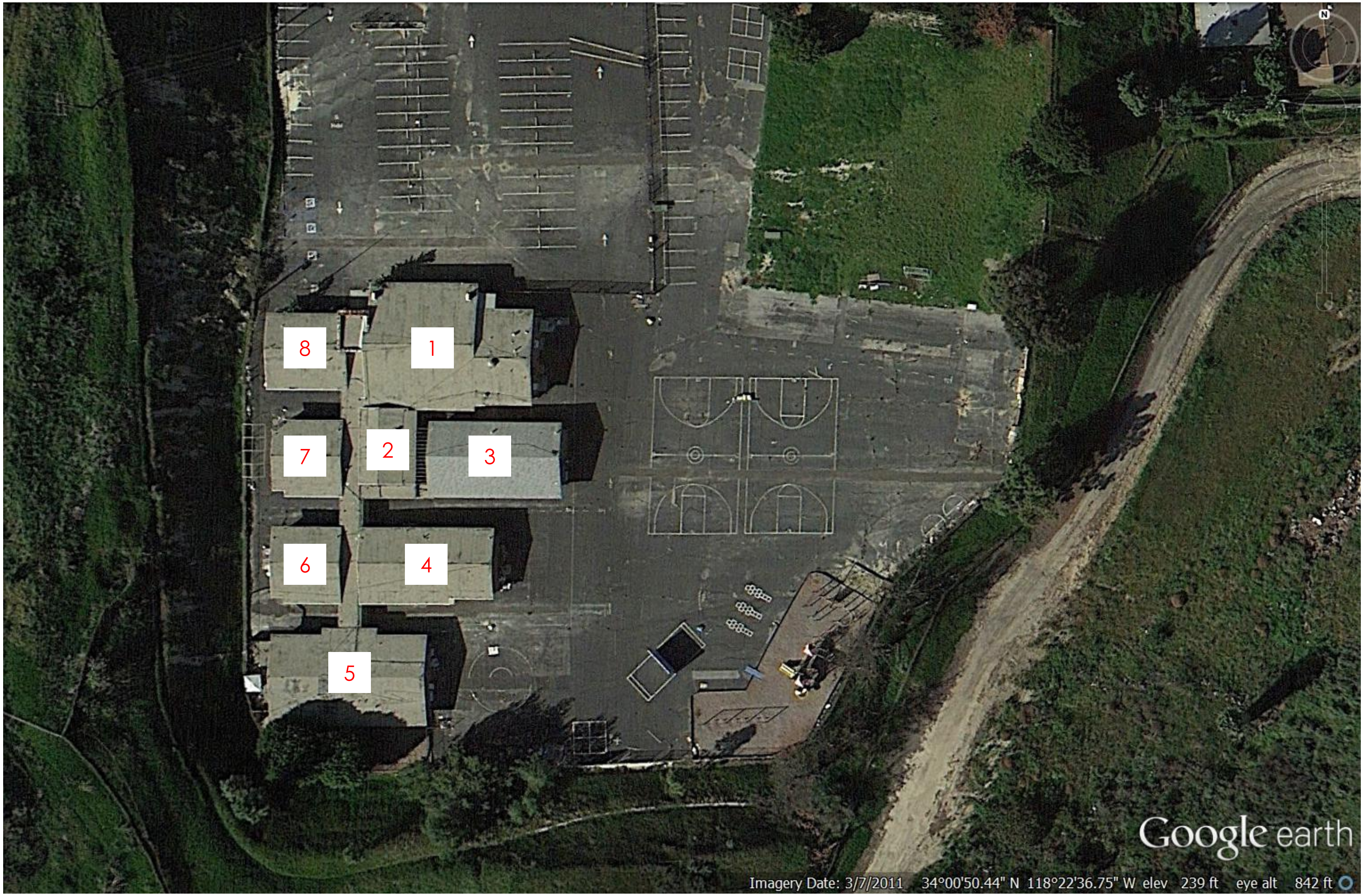
Lead-Related Construction Certificate	Certificate Type	Expiration Date
	Sampling Technician	07/22/2013



17162

Jay A. Yowell ID#: 7202

Appendix F – Structure Locations (Figure 1)



Altec Testing & Engineering, Inc. 6035 Fremont Street, Riverside, CA 92504 951.352.6510 • Fax 951.352.6514	**BUILDING LOCATION MAP** OHR Eliyahu Academy 5950 Stoneview Drive Culver City, California	Date: May 16, 2013 Project No: 603-2013060 Scale: no scale	**Figure 1**	**LEGEND** 3 Building Identification

APPENDIX F

NOISE ANALYSIS TECHNICAL REPORT

NOISE ANALYSIS
FOR
STONEVIEW NATURE CENTER
COUNTY OF LOS ANGELES, CALIFORNIA

Prepared for:

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
900 S. Fremont Avenue
Alhambra, California 91803
Contact: Alioune Dioum, P.E.
(626) 300-3273

Prepared by:

UltraSystems Environmental Inc.
16431 Scientific Way
Irvine, California 92618

Project No. 5892

May 2013

This noise analysis was prepared in accordance with Section 15063(d)(3) and Appendix G of the *State CEQA Guidelines* to determine the potential significant noise effects on the physical environment that could result from the implementation of the proposed project.

Report Preparer:

Name & Title: BENJAMIN WONG, Air & Noise Scientist

Signature: ______________________________ Date: ____________________

Reviewed by:

Name & Title: MICHAEL ROGOZEN, Senior Principal Engineer

Signature: ______________________________ Date: ____________________

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APPENDIX

1.0 INTRODUCTION

The proposed project involves the demolition of a formerly operated elementary school, and the construction of nature center, which would include a 4,000-square-foot, one-story community building, trails, yoga deck, and a native garden, on an approximately 5-acre site across La Cienega Boulevard to the west of the Kenneth Hahn State Recreation Area. **Figure 1** (Regional Location) shows the site in relation to the surrounding area. The immediate vicinity of the proposed project site is shown in **Figure 2** (Project Location Map).

The objective of this report is to assess the impacts of noise from the project on the surrounding community. The following analysis provides a discussion of the fundamentals of sound; an examination of federal, state and local noise guidelines and policies; a review of existing conditions; an evaluation of potential noise impacts associated with the proposed project; and the mitigation for all identified significant or potentially significant impacts.

Service Layer Credits: National Geographic, Esri, DeLorme, NAVTEQ, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, iPC; CDC, 2007; Census, 2010; UltraSystems Environmental Inc., 2013

April 23, 2013

Scale 1:633,600
1 Inch = 10 Miles

N

0 5 10 Miles

0 5 10 Kilometers

Legend

- Project Location
- Los Angeles County Boundary
- California State Boundary

Figure 1
Regional Location

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Service Layer Credits: National Geographic, Esri, DeLorme, NAVTEQ, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, iPC, Copyright:© 2011 Esri, DeLorme, NAVTEQ, TomTom, Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community; Los Angeles County, 2012-2013; UltraSystems Environmental Inc., 2013

April 23, 2013

Scale 1:2,400
1 Inch = 200 Feet

N

0 200 400 Feet

0 50 100 Meters

Legend

- Project Location
- Project Boundary
- Los Angeles County Boundary

Figure 2
Project Location Map

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environmental management planning

2.0 BACKGROUND INFORMATION

2.1 Characteristics of Sound

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The decibel (dB) scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Because the human ear is not equally sensitive to all frequencies, a special frequency-dependent rating scale is used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against upper and lower frequencies in a manner approximating the sensitivity of the human ear. The scale is based on a reference pressure level of 20 micropascals (zero dBA). The scale ranges from zero (for the average least perceptible sound) to about 130 (for the average human pain level).

The normal range of conversation is between 34 and 66 dBA. Between 70 and 90 dBA, sound is distracting and presents an obstacle to conversation, thinking, or learning. Above 90 dBA, sound can cause permanent hearing loss. Examples of various sound levels in different environments are shown in **Table 1** (Typical Sound Levels).

Table 1 - Typical Sound Levels

Common Sounds	A-Weighted Sound Level in Decibels	Subjective Impression
Oxygen Torch	120	Pain Threshold
Rock Band	110	
Pile Driver at 50 feet	100	Very Loud
Ambulance Siren at 100 feet	90	
Garbage disposal	80	Moderately Loud
Vacuum Cleaner at 10 feet	70	
Air Conditioner at 100 feet	60	
Quiet Urban Daytime	50	Quiet
Quiet Urban Nighttime	40	
Bedroom at Night	30	
Recording Studio	20	Just Audible
	10	Threshold of Hearing
	0	

Sources: Aviation Planning Associates. 1978. Calculations of Maximum A-weighted Sound Levels (dBA) Resulting from Civil Aircraft Operations.

A noise environment consists of a base of steady "background" noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway.

To the human ear, a sound 10 dBA higher than another is judged to be twice as loud; 20 dBA higher is four times as loud; and so forth. According to the U.S. Environmental Protection Agency (USEPA), a difference of more than 3 dBA is a perceptible change in environmental noise, while a 5 dBA difference typically causes a change in community reaction, and an increase of 10 dBA is perceived by people as doubling of loudness.[1]

2.2 Noise Measurement Scales

Several rating scales have been developed to analyze adverse effects of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise on people depends largely upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- L_{eq}, the equivalent noise level, is an average of sound level over a defined time period (such as 1 minute, 15 minutes, 1 hour or 24 hours). Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure.
- L_{90} is a noise level that is exceeded 90 percent of the time at a given location; it is often used as a measure of "background" noise.
- CNEL, the Community Noise Equivalent Level, is a 24-hour average L_{eq} with a 4.77-dBA "penalty" added to noise during the hours of 7:00 p.m. to 10:00 p.m., and a 10-dBA penalty added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime.[2] The logarithmic effect of these additions is that a 60-dBA 24-hour L_{eq} would result in a calculation of 66.7 dBA CNEL.
- L_{dn}, the day-night average noise, is a 24-hour average L_{eq} with an additional 10-dBA "penalty" added to noise that occurs between 10 p.m. and 7 a.m. The L_{dn} metric yields values within 1 dBA of the CNEL metric. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment.

---

[1] *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. U.S. Environmental Protection Agency (USEPA). (March 1974).

[2] *Technical Noise Supplement*. California Department of Transportation, Division of Environmental Analysis, Sacramento, California (November 2009), p. 2-57.

2.3 Noise Attenuation

The noise level from a particular source generally declines as the distance to the receiver increases. Other factors such as the weather and reflecting or shielding also intensify or reduce the noise level at any given location. Typically, a single row of buildings between the receiver and the noise source reduces the noise level by about 5 dBA. The U.S. Department of Housing and Urban Development (HUD) has stated that exterior noise levels can normally be reduced by 15 dBA inside buildings constructed with no special noise insulation.[3] The USEPA estimates that residences in "warm" climates provide at least 12 dBA of exterior-to-interior noise attenuation with windows open and 24 dBA with windows closed.[4]

Noise from traffic on roads depends on the volume and speed of traffic and the distance from the traffic. A commonly used rule of thumb for traffic noise is that for every doubling of distance from the road, atmospheric spreading over "hard" or "soft" sites reduces the noise level by about 3 or 4.5 dBA, respectively. For a stationary source, the noise is reduced by at least 6 dBA for each doubling of distance. Further, because of the logarithmic nature of the decibel scale, a doubling of traffic on any given roadway or doubling a stationary source would cause a noise increase of approximately 3 dBA.

3.0 PROJECT SETTING

3.1 Project Description

The proposed project site is located in Culver City, on a 5-acre site west of the Kenneth Hahn State Recreation Area and west of La Cienega Boulevard. The proposed project involves the demolition of a formerly operated elementary school, and the construction of nature center, which would include a 4,000-square-foot, one-story community building, trails, yoga deck, and a native garden. The project site was formerly operated as an elementary school, and was acquired by the Baldwin Hills Regional Conservation Authority (BHRCA) in 2011.

The construction for the project is scheduled to begin in mid-2014, and to be completed by the end of 2015. The project will include demolition of the existing school site, grading (approximately 26,500 square yards), and construction of the community building and wooden yoga deck.

3.2 Existing Noise Environment

The project site is currently a formerly operated elementary school. The main existing sources of noise on and near the project site are automobile and school bus traffic on surrounding roads.

3.3 Sensitive Land Uses

Noise sensitive receivers include schools, hospitals, rest homes, long term care facilities, mental care facilities, residential uses, libraries, passive recreation uses, and places of worship. The existing sensitive receivers nearest the project site are residential dwellings to the north and east

---

3 *Noise Guidebook.* U.S. Department of Housing and Urban Development (HUD) (1985).

4 *Protective Noise Levels. Condensed Version of EPA Levels Document*. U.S. Environmental Protection Agency, Office of Noise Abatement and Control, Washington, DC, EPA-550/9-79-100 (November 1978).

of the proposed project site. **Table 2** (Nearest Sensitive Receivers within 500 Feet) shows the distances to the land uses normally considered to be noise-sensitive.

Table 2 - Nearest Sensitive Receivers within 500 Feet

Type of Sensitive Receiver	Location	Distance (feet)
Single-Family Residence	5925 Stoneview Drive	47
Multi-Family Residence	3902 Lenawee Avenue	348

Source: UltraSystems, 2013.

3.4 Ambient Noise Monitoring

On April 29, 2013, UltraSystems conducted ambient noise sampling at four locations in the general project area. **Table 3** (Characteristics of Ambient Noise Measurement Locations) lists the measurement sites, sampling dates and times, and why each site was chosen. These locations are shown in **Figure 3** (Ambient Noise Measurement Locations).

Table 3 – Characteristics of Ambient Noise Measurement Locations

Site	Sampling Location	Date	Time Interval[a]	Purpose of Selection
1	Latitude: 34.01438°N Longitude: 118.37627°W	04-29-13 Monday	1343-1358	At project site
2	Latitude: 34.01492°N Longitude: 118.37624°W	04-29-13 Monday	1416-1431	Residence directly across from project site
3	Latitude: 34.01622°N Longitude: 118.37474°W	04-29-13 Monday	1458-1513	Existing intersection (Wrightcrest Drive and Lenawee Avenue) leading to Stoneview Drive
4	Latitude: 34.01807°N Longitude: 118.37577°W	04-29-13 Monday	1531-1546	Existing intersection (Ivy Way and Lenawee Ave.) leading to Stoneview Drive

[a] Time differs from times in Appendix A by one hour due to Daylight Savings Time adjustment.

Service Layer Credits: National Geographic, Esri, DeLorme, NAVTEQ, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, iPC, Copyright:© 2011 Esri, DeLorme, NAVTEQ, TomTom, Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community; Los Angeles County, 2012-2013; UltraSystems Environmental Inc., 2013

April 30, 2013

Scale 1:3,600
1 Inch = 300 Feet

N

0 150 300 Feet

0 50 100 Meters

Legend

- Project Location
- Ambient Noise Location
- Project Boundary
- Los Angeles County Boundary

Figure 3
Ambient Noise Measurement Locations

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The sampling locations were chosen to provide an exposure baseline for evaluation of construction and operational impacts. Another selection criterion was that they be as close as practicable to the Proposed Project site or roadways where traffic is estimated to increase due to the Proposed Project.

A Quest SoundPro Model DL-1-1/3 sound level meter was used in the “slow” mode at each site to obtain a 15-minute average sound level (L_{eq}), as well as other metrics. The meter’s microphone was maintained 5 feet above the ground. One sample was taken at each measurement site during the evening peak hour on a weekday. Noise meter output records are in **Appendix A.**

Table 4 (Measured Ambient Noise Levels) shows the results of the ambient noise sampling.

Table 4 – Measured Ambient Noise Levels

Site	Measurement Results (dBA)		
	15-Minute L_{eq}	L_{max}	L_{90}
1	54.0	65.7	49.7
2	52.5	74.0	46.1
3	63.3	81.3	51.9
4	62.5	85.6	45.4

4.0 APPLICABLE REGULATIONS

To limit population exposure to noise levels that are physically and/or psychologically damaging or intrusive, the federal government, the State of California, various county governments, and most municipalities in the state have established noise policies, standards and ordinances.

4.1 Federal

The U.S. Department of Housing and Urban Development has set a goal of 45 dBA L_{dn} as a desirable maximum interior standard for residential units developed under HUD funding (HUD, 1985). While HUD does not specify acceptable exterior noise levels, standard construction of residential dwellings constructed under Title 24 of the California Code of Regulations typically provides 20 dBA of acoustical attenuation with the windows closed and 10 dBA with the windows open. Based on this assumption, the exterior L_{dn} or CNEL should not exceed 65 dBA under normal conditions.

4.2 State of California

The California Department of Health Services (DHS) Office of Noise Control has studied the correlation of noise levels with effects on various land uses. (The Office of Noise Control no longer exists.) The most current guidelines prepared by the state noise officer are contained in the "General Plan Guidelines" issued by the Governor's Office of Planning and Research in 2003.[5] These guidelines establish four categories for judging the severity of noise intrusion on specified land uses:

- **Normally Acceptable**: Is generally acceptable, with no mitigation necessary.
- **Conditionally Acceptable**: May require some mitigation, as established through a noise study.
- **Normally Unacceptable**: Requires substantial mitigation.
- **Clearly unacceptable**: Probably cannot be mitigated to a less-than-significant level.

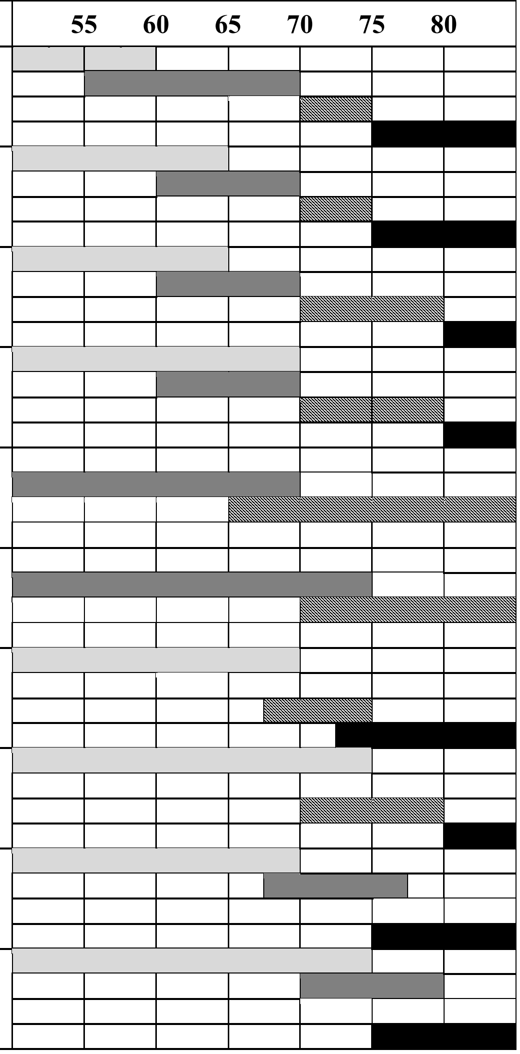
The types of land uses addressed by the state standards, and the acceptable noise categories for each, are presented in **Table 5** (Land Use Compatibility for Community Noise Sources). There is some overlap between categories, which indicates that some judgment is required in determining the applicability of the numbers in every situation.

Title 24 of the California Code of Regulations requires performing acoustical studies before constructing dwelling units in areas that exceed 60 dBA L_{dn}. In addition, the California Noise Insulation Standards identify an interior noise standard of 45 dBA CNEL for new multi-family residential units. (Local governments frequently extend this requirement to single-family housing.)

[5] State of California, *General Plan Guidelines*. Governor's Office of Planning and Research, Sacramento, California (2003).

Table 5 - Land Use Compatibility for Community Noise Sources

Land Use Category	Noise Exposure (dBA, CNEL)
Residential – Low-Density Single-Family, Duplex, Mobile Homes	
Residential – Multiple Family	
Transient Lodging – Motel, Hotels	
Schools, Libraries, Churches, Hospitals, Nursing Homes	
Auditoriums, Concert Halls, Amphitheaters	
Sports Arena, Outdoor Spectator Sports	
Playgrounds, Neighborhood Parks	
Golf Courses, Riding Stables, Water Recreation, Cemeteries	
Office Buildings, Business Commercial and Professional	
Industrial, Manufacturing, Utilities, Agriculture	



Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply system or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: State of California, 2003.

4.3 Local Standards

The primary regulatory documents that establish noise standards within Culver City (City) are the Culver City Municipal Code (Code),[6] and the City's *General Plan, Noise Element* (Noise Element).[7] These documents, as they pertain to noise standards and laws, are discussed in the following subsections. The Code has no established general noise standards with the exception of construction timing. The Noise Element has established the following noise design standards shown in **Table 6** (Culver City Exterior Sound Level Design Standards).[8]

Table 6 - Culver City Exterior Sound Level Design Standards

Land Use Type	dBA, CNEL
Residential	65
Commercial	75[a]

Source: Sound level standards from Culver City General Plan, Noise Element, p. N-22.

[a] Determined by adding 20 dBA to interior design standard CNEL.

4.3.1 Sensitive Receivers

For the purpose of this analysis, sensitive receivers are defined as people who will be exposed to noise from the project during construction hours and during its normal operating hours, and who are in certain types of locations. Typical sensitive receivers include the following:

- Schools;
- Hospitals;
- Rest Homes;
- Long Term Care Facilities;
- Mental Care Facilities;
- Residential Uses;
- Libraries;
- Passive Recreation Uses; and
- Places of Worship

6 "The Municipal Code of the City of Culver City, California" (passed July 11, 2011). Internet URL: http://www.amlegal.com/nxt/gateway.dll/California/culver/themunicipalcodeofthecityofculvercitycal?f=templates$fn=default.htm$3.0$vid=amlegal:culvercity_ca Last accessed: 25 April. 2013.

7 Culver City General Plan, *Noise Element*. Culver City, (Approved July 22 1996). Internet URL: http://www.culvercity.org/~/media/Files/Planning/GeneralPlan/Noise%20Element.ashx.

8 Ibid., p. N-22.

4.3.2 Construction Noise

The Code does not indicate any noise standards for sensitive receivers; however, it does indicate restrictions on construction scheduling. According to §9.07.035 of the Code all construction activity shall be prohibited, except between the hours of:

- 8:00 a.m. and 8:00 p.m. Mondays through Fridays;
- 9:00 a.m. and 7:00 p.m. Saturdays; and
- 10:00 a.m. and 7:00 p.m. Sundays[9]

4.3.3 Operational Noise

Operational noise from the proposed project will be compared to the design standards in the Noise Element (refer to **Table 6**).

4.4 Thresholds of Significance for this Analysis

There are two criteria for judging noise impacts. First, noise levels generated by the proposed project must comply with all relevant federal, state and local standards and regulations. Noise impacts on the surrounding community are limited by local noise ordinances, which are implemented through investigations in response to nuisance complaints. It is assumed that all existing regulations for the construction and operation of the proposed project would be enforced. In addition, the proposed project should not produce noise levels that are incompatible with adjacent noise sensitive land uses as defined in the **Table 5** and **Table 6**.

The second measure of impact used in this analysis is the significant increase in noise levels above existing ambient noise levels as a result of the introduction of a new noise source. An increase in noise level due to a new noise source has a potential to adversely impact people. The proposed project would have a significant noise impact if it would:

- Expose persons to or generate noise levels in excess of standards established in Culver City Noise Element or applicable standards of other agencies.
- Cause the permanent ambient noise level at the property line of an affected land use to increase by 3 dBA CNEL or within the “normally unacceptable” or “clearly unacceptable” ranges for the affected land use (as shown in **Table 5** and **Table 6**).
- Construction takes place outside of allowed time intervals.
- Contribute to a significant cumulative noise impact.

5.0 PROJECT IMPACTS

Noise impacts associated with land use development projects include short-term and long-term impacts. Construction activities, especially heavy equipment operation, would create noise effects on and adjacent to the construction site. Long-term noise impacts include project-

9 "The Municipal Code of the City of Culver City, California" (passed July 11, 2011), § 9.07.035.

generated on-site and off-site operational noise sources. On-site (stationary) noise sources would include operation of mechanical equipment, landscape and building maintenance, and other routine activities. Off-site noise would be attributable to project-induced traffic, which would cause an incremental increase in noise levels within and near the project vicinity.

This section also evaluates potential groundborne vibration that would be generated from the construction or operation of the proposed project.

5.1 Short-Term Noise and Vibration Impacts

5.1.1 Construction Noise

The construction of the Proposed Project could generate noise levels in excess of standards adopted in local ordinances. Noise impacts from construction activities are a function of the noise generated by the operation of construction equipment and on-road delivery and worker commuter vehicles, the location of equipment, and the timing and duration of the noise-generating activities. For the purpose of this analysis, it was estimated that construction of the proposed project would begin mid-2014, and last 15 months. The types and numbers of pieces of equipment anticipated in each phase of construction and development were estimated based on equipment requirements of residential construction projects, and modeling[10] defaults, which are based on a construction survey performed by the South Coast Air Quality Management District (SCAQMD).[11] **Table 7** (Construction Equipment Noise Characteristics) lists the equipment expected to be used. For each equipment type, the table shows an average noise emission level (in dB at 50 feet, unless otherwise specified) and a "usage factor," which is an estimated percentage of operating time that the equipment would be producing noise at the stated level.[12] The proposed project would include demolition, breakup of existing pavement, replacement with concrete, and erection of new structures. Each phase includes a different mix of construction equipment defined by a construction survey performed by the SCAQMD.[13] Composite maximum and hourly L_{eq} values were calculated using the noise characteristics provided in **Table 7**, and methods suggested by the Federal Transit Administration (FTA).[14]

Table 8 (Maximum One-Hour Construction Noise Exposures at Nearest Sensitive Receivers) shows that the worst-case construction noise calculation results in a one-hour L_{eq} of 89.3 dBA 47 feet away from the nearest sensitive receiver. Note that **Table 8** accounts for all the construction equipment (two pavers, two paving equipment, and two rollers) during the paving phase of construction running at the same time, and at the edge of the proposed project site. This is a conservative estimation because realistically, not all the construction equipment would be

---

10 California Emissions Estimator Model (CalEEMod).

11 *California Emissions Estimator Model User's Guide Version 2011.1 Appendix D Default Data Tables*. Prepared by ENVIRON International Corporation, San Francisco, California for South Coast Air Quality Management District, Diamond Bar, California (February 2011). Table 3.2.

12 Equipment noise emissions and usage factors are from Knauer, H. et al., 2006. *FHWA Highway Construction Noise Handbook.* U.S. Department of Transportation, Research and Innovative Technology, Administration, Cambridge, Massachusetts, FHWA-HEP-06-015 (August 2006), except where otherwise noted.

13 *California Emissions Estimator Model User's Guide Version 2011.1 Appendix D Default Data Tables*. Prepared by ENVIRON International Corporation, San Francisco, California for South Coast Air Quality Management District, Diamond Bar, California (February 2011). Table 3.2.

14 Federal Transit Administration, *Transit Noise and Vibration Impact Assessment.* Office of Planning and Environment, FTA-VA-90-1003-06 (May 2006).

operating at the same time, nor would all the equipment be located at the edge of the proposed project site. Although the construction noise exposures would exceed the measured ambient exterior noise levels shown in **Table 4**, and exceed the Noise Element standard of 65 dBA CNEL, the Code has no standard for exterior or interior noise levels for sensitive receivers. The only restriction from the Code is when construction can occur (refer to mitigation measure **N-3**). Also because of the short-term nature of construction, the noise generated from construction of the proposed project will be less than significant with mitigation measures **N-1** through **N-3**.

Table 7 - Construction Equipment Noise Characteristics

Equipment Type	No. Pieces	Maximum Sound Level (dBA @ 50 feet)	Usage Factor (%)
Air Compressors	1	78	40
Crane	1	81	16
Excavators	3	81	40
Forklift	3	65	50
Generator Sets	1	50	81
Grader	1	85	40
Paver	2	85	50
Paving Equipment	2	81	50
Pile Driver	1	99[a]	33
Roller	2	85	20
Rubber Tired Dozer	2	82	50
Tractor	3	84	40
Welders	1	74	40

Source: U.S. Department of Transportation, Research and Innovative Technology, *FHWA Highway Construction Noise Handbook*, 2006.

[a] At 23 feet using DELMAG Diesel Pile Hammer.

Table 8 – Maximum One-Hour Construction Noise Exposures at Nearest Sensitive Receiver

Sensitive Receiver	Distance (Feet)	Maximum One-Hour L_{eq} (dBA)	Exceeds Exterior Noise Standard? (65 dBA)
Nearest Residence to Proposed Project Site	47	89.3	Yes
Source: Calculated by UltraSystems using methods suggested by the FTA.			

5.1.2 Construction Vibration

It is expected that groundborne vibration from project construction activities would cause only intermittent, localized intrusion. The proposed project's construction activities most likely to cause vibration impacts are:

- Heavy Construction Equipment: Although all heavy, mobile construction equipment has the potential of causing at least some perceptible vibration while operating close to buildings, the vibration is usually short-term and is not of sufficient magnitude to cause building damage.

- Trucks: Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes almost always eliminates the problem.

Vibration is sound radiated through the ground. Groundborne noise is the rumbling sound caused by the vibration of building interior surfaces. The ground motion caused by vibration is measured as peak particle velocity (PPV) in inches per second and is referenced as vibration decibels (VdB). Typical outdoor sources of perceptible groundborne vibration are construction equipment and traffic on rough roads.

The American National Standards Institute (ANSI) indicates that vibration levels in critical care areas, such as hospital surgical rooms and laboratories, should not exceed 0.2 inch per second of PPV.[15] The FTA also uses a PPV of 0.2 inch per second as a vibration damage threshold for fragile buildings and a PPV of 0.12 inch per second for extremely fragile historic buildings. The FTA criteria for infrequent groundborne vibration events (less than 30 events per day) that may

[15] American National Standards Institute (ANSI). 1983. *"Guide to the Evaluation of Human Exposure to Vibration in Buildings"*, ANSI S.329-1983.

cause annoyance are 80 VdB for residences and buildings where people normally sleep, and 83 VdB for institutional land uses with primarily daytime use.[16]

The FTA has published standard vibration levels for construction equipment operations, at a distance of 25 feet.[17] The calculated vibration levels expressed in VdB and PPV for construction equipment at distances of 50, 93, and 100 feet are listed in **Table 9** (Vibration Levels of Construction Equipment).

Table 9 - Vibration Levels of Construction Equipment

Equipment	PPV at 50 ft (in/sec)	Vibration Decibels at 50 ft (VdB)	PPV at 93 ft[a] (in/sec)	Vibration Decibels at 93 ft[a] (VdB)	PPV at 100 ft (in/sec)	Vibration Decibels at 100 ft (VdB)
Large Bulldozer	0.0315	78	0.0061	64	0.0111	69
Loaded Truck	0.0269	77	0.0052	63	0.0095	68
Jackhammer	0.0124	70	0.0024	56	0.0044	61
Pile Driving	0.2277	95	0.0898	87	0.0805	86
FTA Thresholds	**PPV**	**0.12 in/sec**		**VdB**	**80 VdB**	
Exceeds Threshold?	**PPV**	**No**		**VdB**	**Yes**	
[a] The closest residence to the pile driving location is approximately 93 feet away.						

As shown in **Table 9**, the vibration level of the listed construction equipment, except pile drivers, at a distance of 50 feet is less than the FTA damage threshold of 0.12 inch per second PPV for fragile historic buildings, and is below the FTA annoyance criteria of 80 VdB. Pile driving at 93 feet, or the pile driving distance nearest a residence, would cause 0.0898 inch per second PPV and 87 VdB, which would not exceed the FTA damage threshold, but would exceed the FTA annoyance criterion. Mitigation measures **N-4** to **N-6** would reduce the VdB below the FTA threshold of 80 VdB; thus, vibration impacts will be less than significant with mitigation.

5.2 Long-Term Noise Impacts

5.2.1 Noise from On-Site Sources

This noise analysis considers and compares the proposed nature center to the 2010 baseline condition, in which the school site is in operation.[18] The proposed nature center would generate

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16 *Transit Noise and Vibration Impact Assessment*, FTA-VA-90-1003-06. U.S. Department of Transportation, Federal Transit Administration (May 2006).

17 Ibid., p. 12-12.

18 Communication between Alioune Dioum, Project Manager, Los Angeles County Department of Public Works, Alhambra, CA to Kelly Hickler, Associate Project Manager, UltraSystems Environmental Inc., Irvine, CA. April 24, 2013.

noises associated with normal nature trail and museum activities. These noise-generating activities would not be different from what are considered typical for residential land uses in the vicinity.

Other operational activities that would contribute to the noise environment would include periodic landscape maintenance activities and vehicular circulation. These sources could generate short-term intermittent or single-event noise levels between 60 dBA and 70 dBA at a distance of 50 feet from the activities. Given the short-term and intermittent nature of these activities, these noise events are not significant.

5.2.2 Roadway Noise

The principal noise source in the project area is traffic on local roadways. The project may contribute to a permanent increase in ambient noise levels in the project vicinity due to project-generated vehicle traffic on neighborhood roadways and at intersections. A noise impact would occur if the project contributes to a permanent increase in ambient noise levels (increase by 3 dBA CNEL or within the “normally unacceptable” or “clearly unacceptable” ranges for the affected land use in **Table 5** and **Table 6**) affecting sensitive receivers along roadways that would carry project-generated traffic.

Because no traffic study was required for this project, to determine whether a noise impact would occur, vehicle trips from the operating school site (2010) were compared to the vehicle trips from the proposed nature center (2014). These vehicle trips were based upon trip generation factors incorporated in the air emissions modeling software used for this project,[19] and indicate that there would be a 0.2% increase in vehicle trips when comparing the operating school site with the proposed nature center. **Table 10** (Vehicle Trips – School Site vs. Proposed Nature Center) summarizes the increase in vehicle trips from 2010 to 2014. Additionally, as indicated above in **Section 2.0**, a doubling of traffic on any given roadway would cause a noise increase of approximately 3 dBA. Because the increase in vehicle trips would be 0.2%, the traffic would not double, and the roadway noise would not increase by 3 dBA; therefore, the roadway noise impacts will be less than significant.

Table 10 – Vehicle Trips – School Site vs. Proposed Nature Center

Land Use (Year)	Vehicle Trips	Change (Trips)	Percent Change	Traffic Doubles?	Significant?
School (2010)	231.45	0.44	0.2%	**No**	**No**
Proposed Nature Center (2014)	231.89				

5.2.3 Operational Vibration Impacts

Operation of the proposed project would not involve significant sources of ground-borne vibration or ground-borne noise. Thus, operation of the proposed project will result in no impact.

[19] California Emissions Estimator Model (CalEEMod).

7.0 MITIGATION MEASURES

7.1 Construction

The following measures will reduce noise impacts from construction of the proposed project:

N-1 The construction contractor shall provide temporary shields and noise barriers, including sound blankets, between the areas of active construction and sensitive receivers. Noise barriers typically reduce noise levels by up to 10 dBA.[20]

N-2 The construction contractor shall ensure that all construction equipment, fixed or mobile, is properly operating (tuned-up) and that mufflers are working adequately.

N-3 Construction activities shall not occur between the hours of 8:00 p.m. and 8:00 a.m. Mondays through Fridays; between the hours of 7:00 p.m. and 9:00 a.m. Saturdays; and between the hours of 7:00 p.m. and 10:00 a.m. on Sundays.

N-4 Consider the alternative of vibratory pile emplacement.

N-5 Pre-auger pile holes to reduce the duration of impact, when feasible.

N-6 On pile drivers, use a resilient pad between the pile and the hammer head, when feasible. This will reduce vibration impacts by a factor of two.

7.2 Operation

Because noise impacts will be less than significant after project buildout, no mitigation measures will be necessary.

8.0 IMPACTS AFTER MITIGATION

Mitigation measures **N-1** through **N-3** will ensure that noise exposures during construction remain less than significant, while mitigation measures **N-4** through **N-6** will ensure that vibration exposures during construction remain less than significant.

[20] "Noise Barrier Design – Visual Quality." 6 July 2011. Internet URL: http://www.fhwa.dot.gov/environment/noise/noise_barriers/design_construction/keepdown.cfm. Last accessed 2 August 2012.

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APPENDIX

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APPENDIX A

NOISE MEASUREMENT OUTPUT FILES

CONSTRUCTION NOISE CALCULATIONS

Equipment	Activity	Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	dB Ref Dist	dB	% Util	Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Coating
	Nearest Receptor Distance(ft.)→	47	47	47	47	47	47									
25-ton crane #1	Set guard structures				1			50	81	16	0	0	0	73.5	0	0
25-ton crane #2	Set guard structures							50	81	16	0	0	0	0	0	0
2-ton flatbed trucks	Haul materials							50	74	40	0	0	0	0	0	0
Aerial bucket trucks	Access structures, string conductor, modify structure arms, and other various uses							50	75	20	0	0	0	0	0	0
Aerial man-lifts	Access structures, string conductor, modify structure arms, tree trimming/removal and other various uses							50	75	20	0	0	0	0	0	0
Air compressors	Operate air tools						1	50	78	40	0	0	0	0	0	74.5
Backhoe #1	Excavate trenches		1	1	1			50	78	40	0	74.5	74.5	74.5	0	0
Backhoe #2	Excavate trenches		1	1				50	78	40	0	74.5	74.5	0	0	0
Backhoe #3	Excavate trenches		1	1				50	78	40	0	74.5	74.5	0	0	0
Bulldozer	Prepare structure sites, upgrade or establish new access roads							50	82	40	0	0	0	0	0	0
Cable reel trailers	Transport cable reels and feed cables into conduit							23	78	33	0	0	0	0	0	0
Cement & Mortar Mixers #1								50	79	40	0	0	0	0	0	0
Cement & Mortar Mixers #2								50	79	40	0	0	0	0	0	0
Cement & Mortar Mixers #3								50	79	40	0	0	0	0	0	0
Cement & Mortar Mixers #4								50	79	40	0	0	0	0	0	0
Compactor	Access road work							50	83	20	0	0	0	0	0	0
Concrete pump								50	82	40	0	0	0	0	0	0
Concrete truck #1	Pour concrete							50	79	40	0	0	0	0	0	0
Concrete truck #2	Pour concrete							50	79	40	0	0	0	0	0	0
Concrete truck #3	Pour concrete							50	79	40	0	0	0	0	0	0
Concrete/Industrial Saw		1						50	90	20	83.5	0	0	0	0	0
Condor boom truck	Access structures over 100 feet high							50	75	20	0	0	0	0	0	0
Drill rig with augers	Install fences, excavate foundation holes, and bores							50	79	20	0	0	0	0	0	0
Dump truck #1	Haul excavated materials/import backfill							50	76	40	0	0	0	0	0	0
Dump truck #2								50	76	40	0	0	0	0	0	0
Dump truck #3								50	76	40	0	0	0	0	0	0
Excavator #1	Earth excavation	1		1				50	81	40	77.5	0	77.5	0	0	0
Excavator #2		1						50	81	40	77.5	0	0	0	0	0
Excavator #3		1						50	81	40	77.5	0	0	0	0	0
Flatbed boom truck	Haul and unload materials							50	75	20	0	0	0	0	0	0
Forklift #1	Move materials on-site				1			50	65	50	0	0	0	62.5	0	0
Forklift #2					1			50	65	50	0	0	0	62.5	0	0
Forklift #3					1			50	65	50	0	0	0	62.5	0	0
Jackhammer								50	82	10	0	0	0	0	0	0
Loader								50	79	16	0	0	0	0	0	0
Mechanic truck	Service and repair equipment							50	75	40	0	0	0	0	0	0
Mobile cranes	Load and unload materials							50	83	30	0	0	0	0	0	0
Motorized scaffolding	Position personnel							50	75	20	0	0	0	0	0	0
Paver #1						1		50	85	50	0	0	0	0	82.5	0
Paver #2						1		50	85	50	0	0	0	0	82.5	0
Paving Equipment #1	Assumed to be similar to Paver					1		50	85	50	0	0	0	0	82.5	0
Paving Equipment #2	Assumed to be similar to Paver					1		50	85	50					82.5	0
Pickup trucks #1	Transport construction personnel							50	75	40	0	0	0	0	0	0
Pickup trucks #2								50	75	40	0	0	0	0	0	0
Pile Driver (Impact)					1			23	99	33	0	0	0	87.9	0	0
Portable generators	Operate power tools				1			50	81	50	0	0	0	78.5	0	0
Road grader	Road construction, maintenance, and upgrading			1				50	85	40	0	0	81.5	0	0	0
Roller #1						1		50	85	20	0	0	0	0	78.5	0
Roller #2						1		50	85	20	0	0	0	0	78.5	0
Rubber Tired Dozer #1		1	1	1				50	82	50	79.5	79.5	79.5	0	0	0
Rubber Tired Dozer #2		1	1					50	82	50	79.5	79.5	0	0	0	0
Rubber Tired Dozer #3								50	82	50	0	0	0	0	0	0
Scrapers #1								50	84	40	0	0	0	0	0	0
Scrapers #2								50	84	40	0	0	0	0	0	0
Tractor #1								50	84	40	0	0	0	0	0	0
Tractor #2								50	84	40	0	0	0	0	0	0
Tractor #3								50	84	40	0	0	0	0	0	0
Tractor #4								50	84	40	0	0	0	0	0	0
Water truck	Dust control							50	84	50	0	0	0	0	0	0
Welder #1					1			50	74	40	0	0	0	70.5	0	0
Welder #2								50	74	40	0	0	0	0	0	0
Welder #3								50	74	40	0	0	0	0	0	0

25-ton crane #1	0	0	0	22387211.39	0	0
25-ton crane #2	0	0	0	0	0	0
2-ton flatbed trucks	0	0	0	0	0	0
Aerial bucket trucks	0	0	0	0	0	0
Aerial man-lifts	0	0	0	0	0	0
Air compressors	0	0	0	0	0	28183829.31
Backhoe #1	0	28183829.31	28183829	28183829.31	0	0

CONSTRUCTION NOISE CALCULATIONS

Equipment	Activity	Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	dB Ref Dist	dB	% Util	Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Coating
	Nearest Receptor Distance(ft.)→	47	47	47	47	47	47									
Backhoe #2											0	28183829.31	28183829	0	0	0
Backhoe #3											0	28183829.31	28183829	0	0	0
Bulldozer											0	0	0	0	0	0
Cable reel trailers											0	0	0	0	0	0
Cement & Mortar Mixers #1											0	0	0	0	0	0
Cement & Mortar Mixers #2											0	0	0	0	0	0
Cement & Mortar Mixers #3											0	0	0	0	0	0
Cement & Mortar Mixers #4											0	0	0	0	0	0
Compactor											0	0	0	0	0	0
Concrete pump											0	0	0	0	0	0
Concrete truck #1											0	0	0	0	0	0
Concrete truck #2											0	0	0	0	0	0
Concrete truck #3											0	0	0	0	0	0
Concrete/Industrial Saw											223872113.9	0	0	0	0	0
Condor boom truck											0	0	0	0	0	0
Drill rig with augers											0	0	0	0	0	0
Dump truck #1											0	0	0	0	0	0
Dump truck #2											0	0	0	0	0	0
Dump truck #3											0	0	0	0	0	0
Excavator #1											56234132.52	0	56234133	0	0	0
Excavator #2											56234132.52	0	0	0	0	0
Excavator #3											56234132.52	0	0	0	0	0
Flatbed boom truck											0	0	0	0	0	0
Forklift #1											0	0	0	1778279.41	0	0
Forklift #2											0	0	0	1778279.41	0	0
Forklift #3											0	0	0	1778279.41	0	0
Jackhammer											0	0	0	0	0	0
Loader											0	0	0	0	0	0
Mechanic truck											0	0	0	0	0	0
Mobile cranes											0	0	0	0	0	0
Motorized scaffolding											0	0	0	0	0	0
Paver #1											0	0	0	0	1.8E+08	0
Paver #2											0	0	0	0	1.8E+08	0
Paving Equipment #1											0	0	0	0	1.8E+08	0
Paving Equipment #2											0	0	0	0	1.8E+08	0
Pickup trucks #1											0	0	0	0	0	0
Pickup trucks #2											0	0	0	0	0	0
Pile Driver (Impact)											0	0	0	616595001.9	0	0
Portable generators											0	0	0	70794578.44	0	0
Road grader											0	0	1.41E+08	0	0	0
Roller #1											0	0	0	0	7.1E+07	0
Roller #2											0	0	0	0	7.1E+07	0
Rubber Tired Dozer #1											89125093.81	89125093.81	89125094	0	0	0
Rubber Tired Dozer #2											89125093.81	89125093.81	0	0	0	0
Rubber Tired Dozer #3											0	0	0	0	0	0
Scrapers #1											0	0	0	0	0	0
Scrapers #2											0	0	0	0	0	0
Tractor #1											0	0	0	0	0	0
Tractor #2											0	0	0	0	0	0
Tractor #3											0	0	0	0	0	0
Tractor #4											0	0	0	11220184.54	0	0
Water truck											0	0	0	0	0	0
Welder #1											0	0	0	0	0	0
Welder #2											0	0	0	0	0	0
Welder #3											0	0	0	0	0	0
											570824699	**262801675.6**	**3.71E+08**	**754515643.8**	**8.5E+08**	**28183829.31**
											87.6	84.2	85.7	88.8	**89.3**	74.5

STONEVIEW NATURE CENTER
CONSTRUCTION EQUIPMENT VIBRATION IMPACT ESTIMATES

Equipment	PPV at 25 ft. (in/sec)	PPV at 50 ft.	PPV at 100 ft.	RMS at 25 ft. (VdB)	RMS at 50 ft.	RMS at 100 ft.	PPV at 150 ft. (in/sec)	RMS at 150 ft.	PPV at 93 ft. (in/sec)	RMS at 93 ft. (vdB)
Loaded Truck	0.076	0.0269	0.0095	86	77	68	0.005171145	63	0.0106	69
Jackhammer	0.035	0.0124	0.0044	79	70	61	0.002381448	56	0.0049	62
Large Bulldozer	0.089	0.0315	0.0111	87	78	69	0.006055683	64	0.0124	70
Pile Driver	0.644	0.2277	0.0805	104	95	86	0.04381865	81	0.0898	87
Small Bulldozer	0.003	0.0011	0.0004	58	49	40	0.000204124	35	0.0004	41

Source: Federal Transit Administration (FTA). 2006. *Transit Noise and Vibration Impact Assessment* . May. Chapter 12. Page 12-11 to 12-12

Thresholds
0.12 in/s PPV
80 VdB for Residence
83 VdB for Commercial

Closest Pile Driving Location @ 93 feet

REVISED TRAFFIC NOISE CALCULATION METHOD

The following method used data from the traffic study[1] to estimate noise exposures to sensitive receptors near various intersections and along selected roadway segments. The basic equation for traffic noise exposure at 50 feet was:[2]

$$L_{eq(50)} = SEL_{ref} + 10\log(N) + 40\log(S/S_{ref}) - 10\log(S/S_{ref}) - 35.6$$

where

L_{eq} = 1-hour equivalent average noise level (dBA)

SEL_{ref} = Reference sound exposure level (dBA)

N = Vehicles passing by in one hour

S = Average vehicle speed (miles per hour)

S_{ref} = Reference vehicle speed (miles per hour)

Following Federal Transit Administration (FTA) guidance, we assumed an SEL of 74 dBA at 50 feet and a reference speed of 50 miles per hour. Traffic volumes were obtained from the traffic study. The results of the basic calculation were adjusted for distance by the following equation, where D is the actual distance in feet, and the ground surface is assumed to be hard:[3]

$$L_{eq}(D) = L_{eq(50)} - 10\log(D/50)$$

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1 *Stoneview Nature Center Traffic and Parking Study*. Prepared by IBI Group, Inc. for County of Los Angeles (Revised May 7, 2014).

2 Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, Office of Planning and Enforcement, FTA=VA-90-1003-06 (May 2006), pp. 6-14 and 6-16.

3 Caltrans, *Technical Noise Supplement* (November 2009), p. 2-31.

APPENDIX G

TRAFFIC AND PARKING STUDY

Final Report
35352

Stoneview Nature Center Traffic and Parking Study

Prepared for County of Los Angeles
by IBI Group

Revised March 7, 2014

Document Control Page

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Executive Summary

This report documents the results of the traffic impact and parking analysis conducted in support of a Mitigated Negative Declaration (MND) for a proposed nature center at 5950 Stoneview Drive in Culver City, California. This report has been prepared in accordance with the Traffic Study Criteria for the Review of Proposed Development Projects Within the City of Culver City (City of Culver City Traffic Study Criteria) dated July 2012. The five-acre project site was occupied by a private K-8 school facility from 1995 to 2010, but is currently vacant. The proposed project would include demolition of the existing structures and the construction of a 4,000-square-foot building, gardens, landscaping, trails and surface parking lot with 61 spaces.

Project Trip Generation

The daily trip generation projections for the Stoneview Nature Center are based on annual attendance figures from seven comparable natural areas located throughout Los Angeles County. The project trip forecasts include trips generated by the nature center as a trailhead for the Park to Playa Trail project, which proposes to install a six-foot-wide natural surface trail that would extend from the Baldwin Hills Scenic Overlook area to the Nature Center site and connect to La Cienega Boulevard. The average vehicle occupancy rate is assumed to be 2 persons per vehicle, and each vehicle would generate two trips (one inbound and one outbound). While the actual arrivals to and departures from the Nature Center are expected to be evenly distributed throughout the day, a concentration of trips during the AM, PM and weekend peak periods is assumed for the traffic analysis to represent a worst case condition.

The Stoneview Nature Center project trip generation is summarized in Table 1.

Table 1. Project Trip Generation

Max Weekday Daily Trips	AM Peak Hour		PM Peak Hour		Max Weekend Daily Trips	Weekend Peak Hour	
	IN	OUT	IN	OUT		IN	OUT
125	18	13	14	17	275	34	34

Assumptions:
1. On a typical weekday, 25% of the daily project trips occur during the AM peak hour (58% in, 42% out), and 25% of the daily trips occur during the PM peak hour (45% in, 55% out). It is likely that the actual distribution of trips will be more evenly distributed throughout the day, but the assumed concentration of trips during the peak periods represents a worst case scenario.
2. The average vehicle occupancy rate is 2 persons per vehicle.
3. Each vehicle generates two trips (one inbound and one outbound).

Intersection Level of Service

Intersection level of service was calculated for the weekday AM peak hour, weekday PM peak hour and weekend peak hour time periods for the following scenarios:

- Existing (Year 2013) No Project
- Existing (Year 2013) With Project
- Opening (Year 2016) Cumulative Base – No Project
- Opening (Year 2016) Cumulative Base – With Project

Based on City of Culver City Traffic Study Criteria thresholds, no significant impacts have been identified at study area intersections in any analysis scenarios that are attributable to the Stoneview Nature Center project.

Signal Warrant Analysis

Signal warrant analysis was performed for the following unsignalized intersections:

- Lenawee Avenue & Rodeo Road (study intersection no.2)
- Lenawee Avenue & Ivy Way (study intersection no.5)
- The project site access driveway on Stoneview Drive

Based on the forecast peak hour approach volumes, traffic signals are not warranted at any of these intersections in the With Project condition.

Residential Street Analysis

A weekday and weekend residential street analysis was prepared for the Lenawee Avenue, Wrightcrest Drive and Stoneview Drive segments that provide access to and from the project area. Based on the City of Culver City thresholds, the project is forecast to create significant impacts on Lenawee Avenue and on Stoneview Drive on the weekend. Due to the low pre-project and post-project volumes on these street segments, a determination of appropriate mitigation measures will require input from local residents and the City of Culver City. Measures may include a traffic monitoring program, or contribution toward physical improvements to promote traffic calming.

Parking Analysis

Los Angeles County, California Code of Ordinances requires that 51 off-street parking spaces be provided for the Nature Center site. The Culver City Zoning Code requires 61 parking spaces for the site. Based on projected attendance and a survey of observed parking demand rates published in the ITE Parking Generation Manual, the 61 parking spaces provided on the project site are expected to satisfy both City and County requirements and forecast demand for typical site usage.

CMP Roadway Analysis

La Cienega Boulevard is identified as part of the Congestion Management Plan (CMP) Highway and Roadway System for Los Angeles County. The nearest CMP arterial monitoring intersection is the intersection of La Cienega Boulevard and Jefferson Boulevard (CMP ID 46), which is located approximately 1.2 miles north of the project site. Based on the proposed project trip generation projections from this study, the proposed project is not expected to add 50 or more trips per hour to this location. Therefore, no further analysis of this CMP monitoring intersection is required.

The nearest mainline freeway monitoring location to the project site is the I-10 freeway east of the La Brea Avenue undercrossing (CMP Station 1012), which is approximately 3 miles northeast of the site. Based on the proposed project trip generation projections, the project is not forecast to add 150 or more new peak hour trips onto the freeway mainline. No further analysis of this CMP monitoring location is required.

Recommended Mitigation Measures

The project is not expected to create significant impacts to study area intersections based on the City of Culver City thresholds for significant impacts, and is not required to contribute toward any fair share costs for intersection improvements.

Based on County projections of visitors to the Stoneview Nature Center, the project is expected to increase the daily traffic volume on Lenawee Avenue and Stoneview Drive by more than 120 vehicles on the weekend, which meets the City of Culver City criteria for significant impact on streets that currently carry less than 1,000 vehicles per day. The following measures are recommended to minimize the potential impacts that may be experienced by residents in the vicinity of the project site due to increased traffic levels on local residential streets, and to prevent any potential overflow parking from utilizing on-street parking spaces.

- A traffic monitoring program should be established that includes taking "before-project" traffic counts and parking surveys on Stoneview Drive and Lenawee Avenue prior to construction, and "after-project" traffic counts and parking surveys once the Stoneview Nature Center is open and operating. The data will be compared to determine the actual increase in daily traffic and parking utilization associated with the project. If an increase in daily traffic of 120 vehicles or more is observed on either of these streets, the project may be required to contribute toward the City's Residential Neighborhood Traffic Management Program (NTMP). Typical elements of an NTMP include speed humps, street diverters, traffic circles, one-way streets and turn restrictions.
- It is recommended that the Stoneview Nature Center not be identified as an official trailhead in any Park to Playa Trail project documents or published materials. While it is possible that some hikers who are not interested in visiting the Nature Center may park in the Stoneview parking lot to access the trails, visitors should be encouraged to park in one of the other available public parking lots. The Stoneview Nature Center parking lot should not be identified in any printed or electronic maps produced as part of the Park to Playa Trail project, and no signage installed as part of the Park to Playa Trail project should direct vehicles toward the Stoneview site.
- The Los Angeles County Department of Parks and Recreation should limit the attendance at special events held at the Stoneview Nature Center to a level that can reasonably be accommodated by the surface parking lot. Unless provisions have been made for a large group to arrive by bus or other alternative mode of transportation, at least one parking space should be allocated per staff member and one parking space allocated for every two visitors or guests so as not to exceed parking capacity.
- If an event will be held at the Stoneview Nature Center with more than 90 attendees and staff arriving in private vehicles, a special event parking management plan should be developed to identify an off-site parking location, shuttle service routes and headways, and directional signage locations.

1 Introduction

This report documents the results of the traffic impact and parking analysis conducted in support of a Mitigated Negative Declaration (MND) for a proposed nature center at 5950 Stoneview Drive in Culver City, California.

1.1 Report Sections

The information contained in this report is presented in the following sections:

Executive Summary

1 Introduction

2 Project Description

3 Transportation Circulation Setting

4 Analysis and Impact

5 Parking Analysis

6 CMP Roadway Analysis

7 Recommendations and Mitigation Measures

Section 1 introduces the report, identifies the main sections, and provides a general overview of the project area. The proposed project is described in Section 2. Section 3 provides information on existing land uses and the transportation network in the study area. The trips generated by the project and related projects and the level of service analysis for study roads and intersections are presented in Section 4. Traffic impacts and the project fair share contribution toward improvements are discussed in Section 5. Section 6 contains the parking analysis, and Section 7 addresses Los Angeles County's Congestion Management Program (CMP) requirements. Recommended mitigation measures to address traffic and parking impacts anticipated to occur within the study area are presented in Section 8.

2 Project Description

The project site occupies five acres at 5950 Stoneview Drive in the City of Culver City, California. The Assessor's identification number is 4204-014-908. The project site was developed as a school facility in 1956, and was occupied by the Ohr Eliyahu Academy from 1995 to 2010. The site currently includes eight unoccupied buildings with a total gross floor area of approximately 15,000 square feet, concrete and asphalt paving, fences and gates, utilities, and several trees and shrubs. The project site was acquired by the Baldwin Hills Regional Conservation Authority (BHRCA) in 2011.

The proposed project would include demolition of the existing structures and the construction of a 4,000-square-foot one-story interpretive center with a multi-purpose room, staff office, interior accessible restrooms, exterior accessible restrooms, and a terrace and observation area. A trail would connect the interpretive center to landscape elements including a detention basin, bioswale, botanical garden, nature grove, interpretive signage, yoga deck, native garden, demonstration/community garden, seating, passive meadow, and an exercise area. Separate 16-space and 45-space parking areas would be provided for a total of 61 parking spaces. The proposed site plan is illustrated in Figure 2.1.

FIGURE 2.1 CONCEPTUAL SITE PLAN

Source: Stoneview Nature Center IS/MND - Figure 2.3: Conceptual Site Plan

Once constructed and operating, it is anticipated that the property title for the Stoneview Nature Center would be transferred from the BHRCA to the County of Los Angeles, and that the Los Angeles County Department of Parks and Recreation would operate and maintain the site.

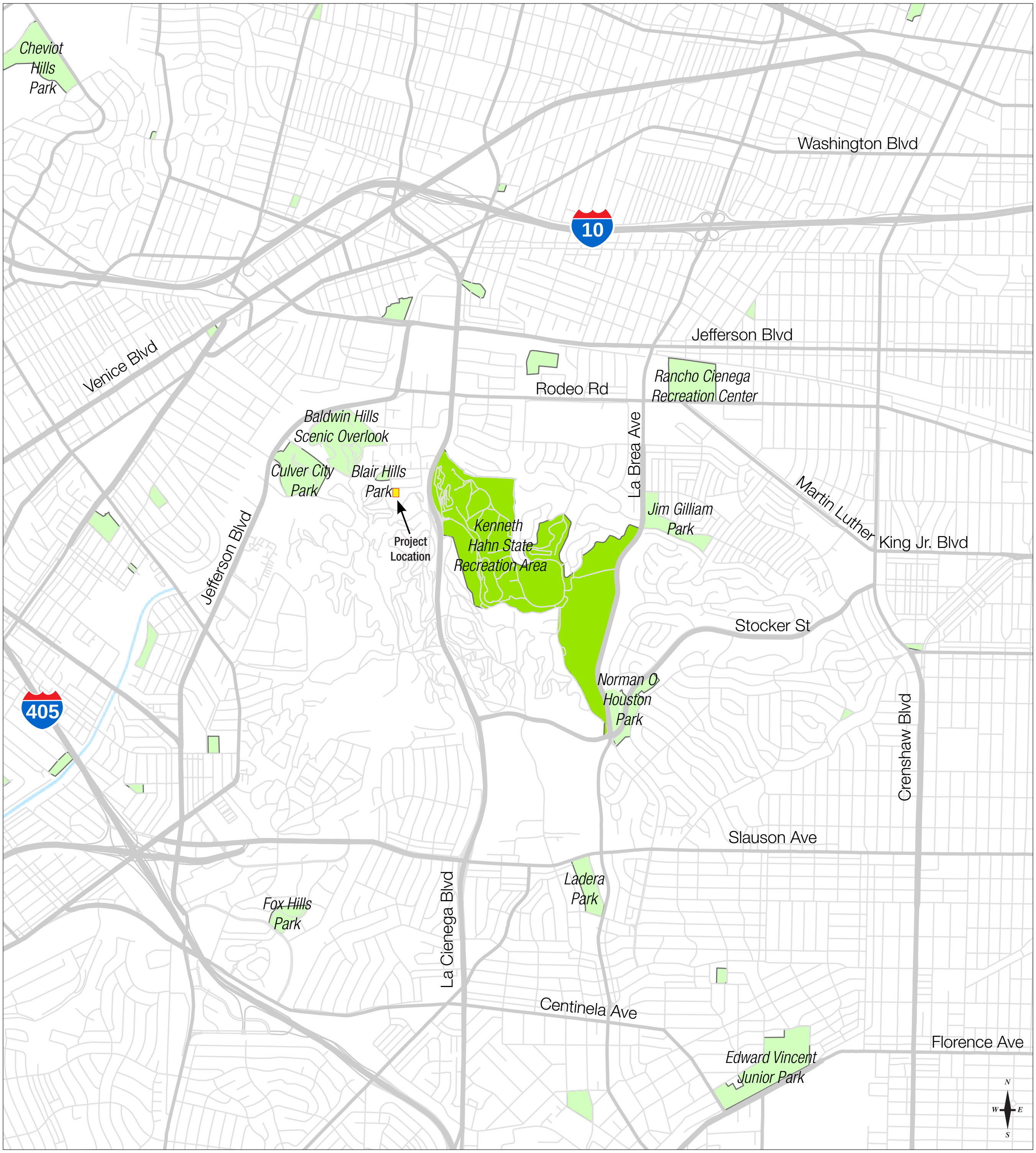
The proposed project would be open to the public seven days a week from approximately 8:00 AM to 5:00 PM. Vehicular and pedestrian access to the site would be controlled by gates that would be closed during non-operating hours. Fees are not anticipated to be charged for general admission to the Nature Center or for parking in the surface lot. The interpretive center and/or gardens may also be utilized for public or private special events.

2.1 Study Area

The project site is located in the Blair Hills area of Culver City, near the eastern City boundary. It is surrounded by residential land uses to the north and open space to the south, east and west. The open space includes the Baldwin Hills Scenic Overlook and Culver City Park to the west, oilfields to the south, and the Kenneth Hahn State Recreational Area to the east.

A vicinity map showing the site location and the study area is provided in Figure 2.2.

FIGURE 2.2 PROJECT LOCATION AND STUDY AREA



Legend

Project Location

3 Transportation Circulation Setting

3.1 Existing and Proposed Site Uses

The project site is zoned for Residential Single Family (R1) use, and was occupied by a private school serving kindergarten through eighth grade students from 1995 to 2010. The school buildings (approximately 15,000 square feet) remain on the site, but are currently unoccupied. The proposed project includes the demolition of the existing buildings and paved asphalt and concrete areas, and the construction of a nature center consisting of a 4,000-square-foot building, 61 surface parking spaces, gardens and trails.

3.2 Study Area Roadway Network

The project site is located approximately two miles east of the Interstate 405 (I-405) freeway and 1.5 miles south of Interstate 10 (I-10). Major arterials in the study area include Jefferson Boulevard, La Cienega Boulevard, Rodeo Road and Stocker Street. Local streets that provide access to the site include Lenawee Avenue, Ivy Way, Wrightcrest Drive and Stoneview Drive. Descriptions of the arterials and local streets are included in this section.

Jefferson Boulevard is a four-lane divided arterial that runs north and south between the southern City limits and Rodeo Road; and east and west between Ballona Creek and the eastern City limits. On-street parking is permitted along selected segments of the corridor. There are Class II bike lanes along Jefferson Boulevard east of Ballona Creek. The posted speed limit is 35 miles per hour.

La Cienega Boulevard is a six-lane divided arterial that travels north and south through the study area. It is included in the Los Angeles County Congestion Management Program (CMP) Highway and Roadway System for Los Angeles County. On-street parking is not permitted. The posted speed limit is 35 miles per hour.

Rodeo Road is a six-lane arterial with a center two-way left-turn lane that runs east and west through the study area. On-street parking is not permitted within the study area. The corridor is designated as a Bicycle Friendly Street. The posted speed limit is 35 miles per hour.

Stocker Street is a four-lane undivided roadway that travels east and west from La Cienega Boulevard to the Leimert Park neighborhood in South Los Angeles. On-street parking is not permitted in the study area vicinity. The posted speed limit is 50 miles per hour. Stocker Street is designated as a Bicycle Friendly Street in the Culver City Bicycle and Pedestrian Master Plan.

Lenawee Avenue is a two-lane undivided roadway that travels north and south between Rodeo Road and Stoneview Drive. The road serves residential and industrial land uses. On-street parking is generally permitted between 6:00 AM and 10:00 PM. The de facto speed limit is 25 miles per hour.

Ivy Way is a two-lane undivided roadway that travels east and west between Perham Drive and Lenawee Avenue. Parking is limited to 2 hours between the hours of 8:00 AM and 6:00 PM, Monday through Saturday. The de facto speed limit is 25 miles per hour.

Wrightcrest Drive is a two-lane undivided local street that travels east and west between La Cienega Boulevard and Blair Hills Park. The roadway travels through a residential neighborhood. On-street parking is generally permitted along both sides of the street. The posted speed limit is 25 miles per hour.

Stoneview Drive is a two-lane undivided local street that travels east and west between Blair Hills Park and Lenawee Avenue. Short-term on-street parking is permitted along the north side of the street. The de facto speed limit is 25 miles per hour.

3.3 Study Intersections

The following intersections have been selected for analysis:

1. Jefferson Boulevard & Rodeo Road
2. Lenawee Avenue & Rodeo Road
3. La Cienega Boulevard & Rodeo Road
4. Holdrege Avenue & Jefferson Boulevard
5. Lenawee Avenue & Ivy Way
6. La Cienega Boulevard & Wrightcrest Drive
7. La Cienega Boulevard & Stocker Street

The locations, existing geometry and control for each intersection are illustrated in Figure 3.1.

3.4 Traffic Counts

Peak period intersection turning movement counts (TMCs) and 24-hour segment counts were collected by Pacific Traffic Data Services (PTDS) on Thursday and Sunday, October 24th and October 27th, 2013. Weekday intersection TMCs were collected in 15-minute intervals from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. Weekend intersection TMCs were collected from 11:00 AM to 3:00 PM. Twenty-four hour tube counts were taken on Wrightcrest Drive between Lenawee Avenue and La Cienega Boulevard, on Lenawee Avenue just south of Wrightcrest Drive, and on Stoneview Drive just west of Lenawee Avenue. Figure 3.1 illustrates the Existing Year 2013 weekday AM and PM peak hour and Sunday peak hour turning movement volumes. The traffic count data sheets are provided in Appendix A.

3.5 Bicycle and Pedestrian Facilities

Existing bicycle and pedestrian facilities within the study area include Class II bike lanes, Class III bike routes, and multi-use paths. The Culver City Bicycle and Pedestrian Master Plan and the City of Los Angeles 2010 Bicycle Plan show existing bicycle and pedestrian facilities as well as proposed future facilities. Existing bicycle and pedestrian facilities include:

- Class II Bike Lanes – Venice Boulevard; Jefferson Boulevard; La Brea Avenue
- Class III Bike Routes – Rodeo Road; Stocker Street
- Multi-Use Paths – Culver Boulevard; Ballona Creek

Planned bicycle and pedestrian facilities include:

- Class I Bike Path – National Boulevard/Jefferson Boulevard from Wesley Street to La Cienega Boulevard
- Class II Bike Lanes – Washington Boulevard; La Brea Avenue
- Bicycle Friendly Streets – Rodeo Road; Wrightcrest Drive; Lenawee Avenue; Stocker St
- Sharrows – Washington Boulevard; Duquesne Avenue; Jefferson Boulevard
- Multi-Use Paths – Jefferson Boulevard; Duquesne Avenue

FIGURE 3.1 STUDY INTERSECTION EXISTING GEOMETRY AND CONTROL

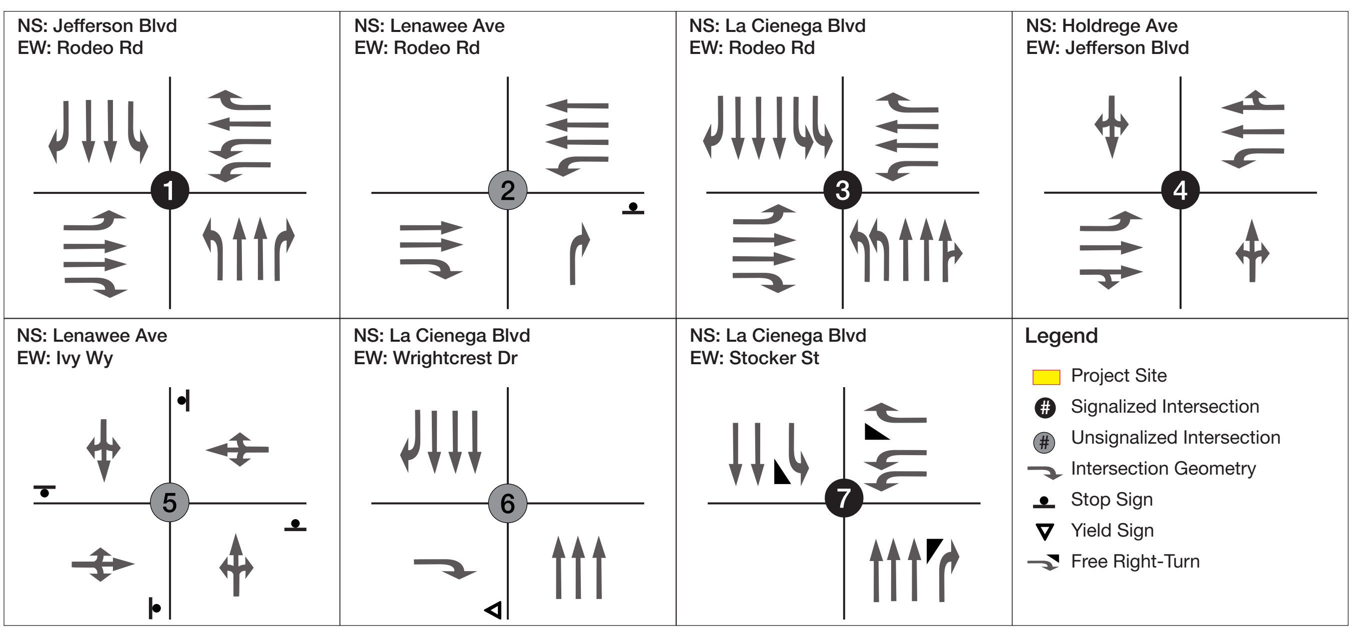
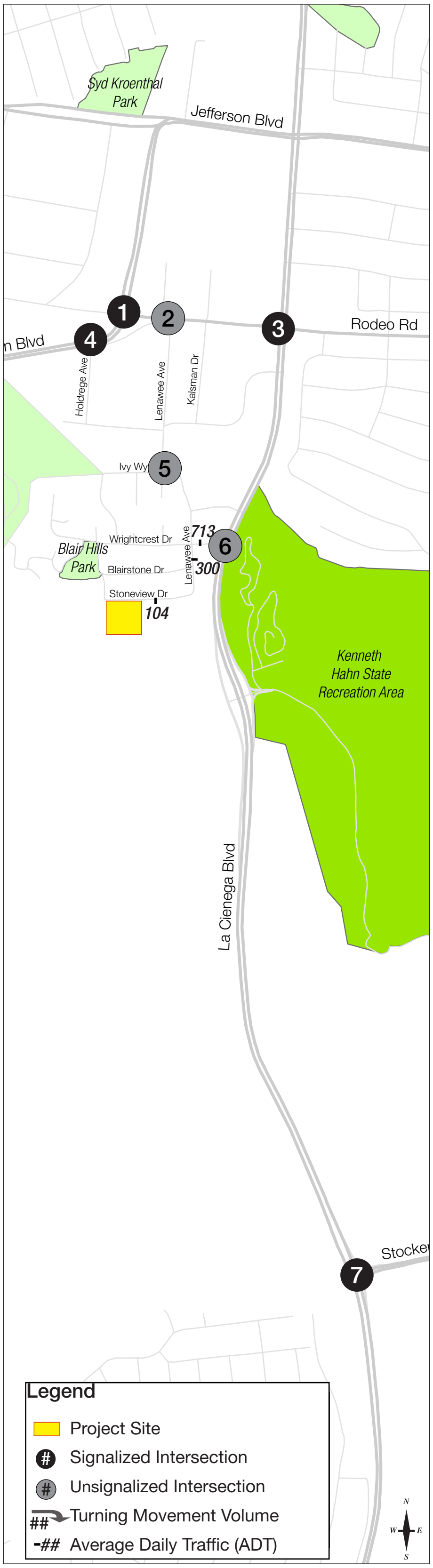
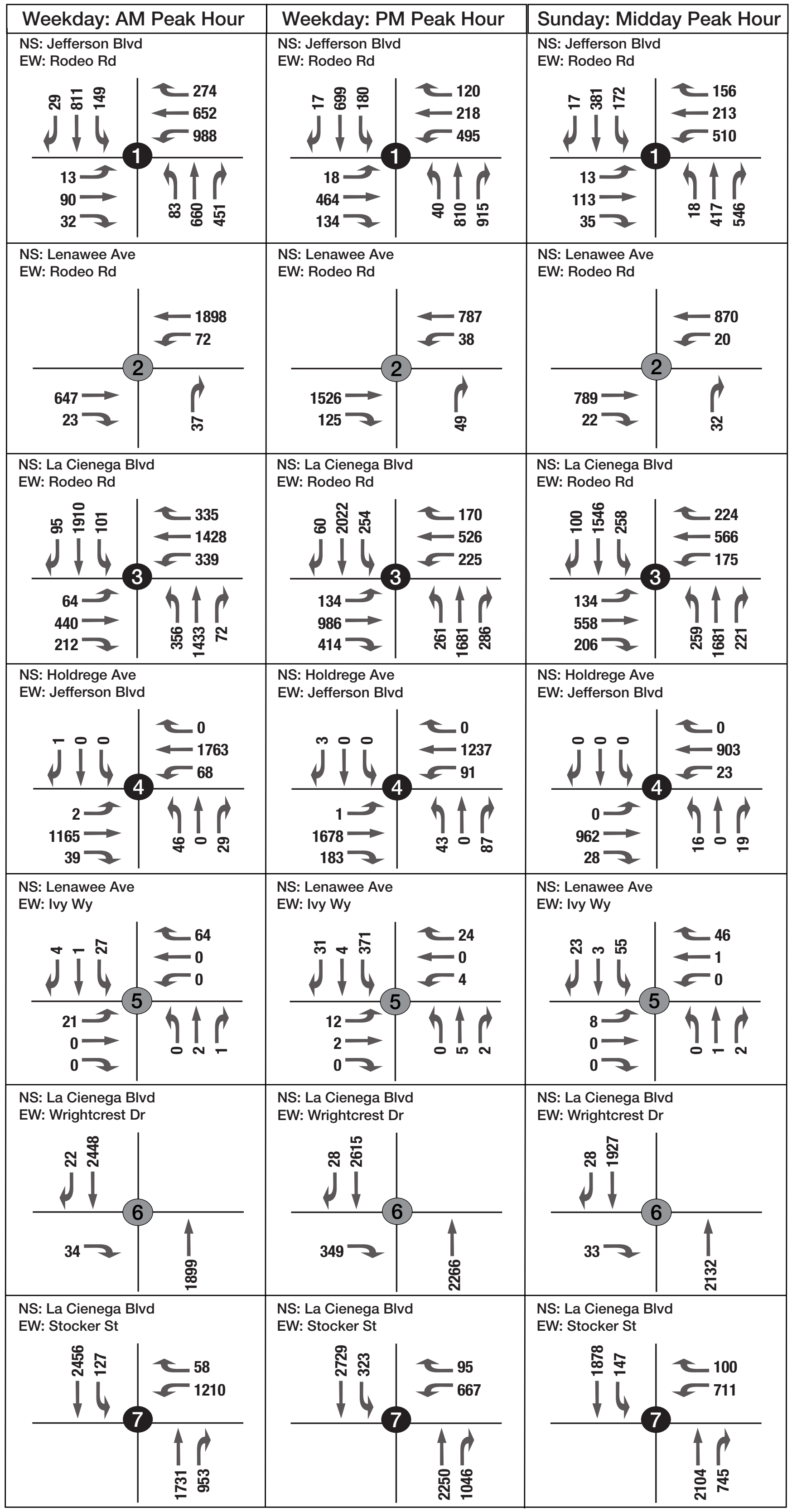


FIGURE 3.2 PEAK HOUR TURNING MOVEMENT AND DAILY VOLUMES - EXISTING YEAR 2013 NO PROJECT





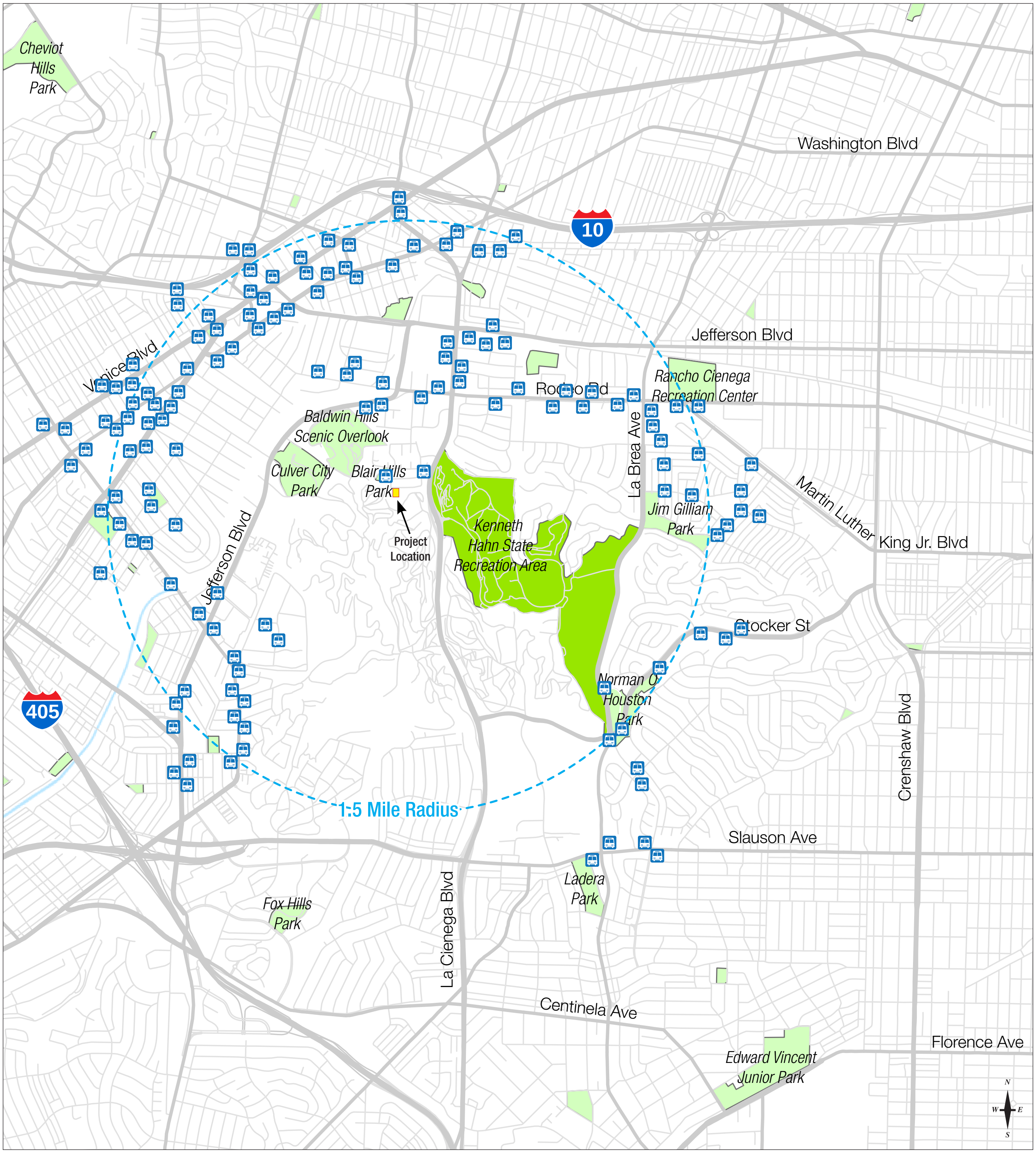
3.6 Transit Services

Transit services within the study area are provided by Metro and the City of Culver City. The Metro Light Rail Expo line runs in a westerly direction from Downtown Los Angeles to Culver City, with stations at La Cienega Boulevard & Jefferson Boulevard and La Brea Avenue & Exposition Boulevard. These stations are located approximately 0.6 and 0.9 miles from the northern end of the KHSRA, respectively.

Culver CityBus and Metro buses serve the study area with Metro Bus Routes 212 and 312 running on La Brea Avenue and Overhill Drive; Route 217 along La Cienega Boulevard; Route 120 on Stocker Street; CityBus 4 on Jefferson Boulevard; and CityBus 5 on Rodeo Road and La Cienega Boulevard. Bus stop locations within the vicinity of the study area are illustrated in Figure 3.3.

The Baldwin Hills Parklands Shuttle/Microbus ("the link") is a weekend/holiday fixed route circulator service that travels along Jefferson Boulevard, La Cienega Boulevard, Rodeo Road and National Boulevard to provide access between the Baldwin Hills Scenic Overlook, the Kenneth Hahn State Recreational Area and the Metro Bus Stop/Expo Light Rail Station at the intersection of La Cienega Boulevard & National Boulevard. The buses operate on Saturday, Sunday and holidays between 8:00 AM and 6:00 PM with 20 minute headways. The service is free for seniors, persons with disabilities and children under 5 years of age. A fare of 25 cents per trip is charged for all other passengers. Metro and EZ Passes are accepted.

FIGURE 3.3 TRANSIT STOP LOCATIONS



Legend

Project Site

Bus Stop Locations

4 Analysis and Impact

4.1 Analysis Methodology

4.1.1 Analysis Scenarios

Traffic conditions at study intersections were analyzed during the AM peak hour, PM peak hour, and Sunday peak hour. The weekend analysis was included because attendance at the Nature Center is expected to be higher on the weekends than during the week. The traffic analysis was conducted for the following scenarios:

- Existing (Year 2013) No Project
- Existing (Year 2013) With Project
- Opening (Year 2016) Cumulative Base – No Project
- Opening (Year 2016) Cumulative Base – With Project

4.1.2 Analysis Methodology and Software

Study intersection future forecast traffic conditions were analyzed using the Intersection Capacity Utilization (ICU) methodology, consistent with the County of Los Angeles Traffic Impact Analysis Guidelines (1997). The ICU methodology is based on intersection volume-to-capacity (V/C) ratios. The ICU value for each movement is the observed or forecast volume divided by the saturation flow volume. The intersection ICU value is the sum of the ICU values for the critical movement on each leg, where the critical movement is the one (left, through, or right) that has the highest ICU value. ICU values are usually expressed as a decimal percent (e.g. 0.74), where 1.00 represents the saturated condition where the volume of traffic flow is equal to the capacity. Consistent with the City of Culver City Traffic Study Criteria, the general lane capacity is assumed to be 1,600 vehicles per hour per lane, and the capacity used for a set of dual left turn lanes was 2,880 vehicles per hour. A ten percent loss time was also utilized for the yellow traffic signal clearance interval.

The efficiency of traffic operations is measured in terms of Level of Service (LOS). The LOS refers to the quality of traffic flow along roadways and at intersections. Evaluation of roadways and intersections involves the assignment of grades from “A” to “F,” with LOS “A” representing the highest level operating conditions and LOS “F” representing extremely congested and restricted operations. Each letter grade corresponds to a range of V/C values, which are described in Table 4-1.

Intersection Level of Service analysis was performed using TRAFFIX software. TRAFFIX is a network-based interactive computer program that enables calculation of levels of service at signalized and unsignalized intersections for multiple locations and scenarios. TRAFFIX also calculates signal timing (green times and cycle lengths) and maximum queue lengths to assist in evaluating signalized intersections.

Table 4-1 Level of Service Description

Level of Service	ICU Value	Definition
A	0.00 – 0.60	At level of service A there are no cycles that are fully loaded, and few are even close to loaded. No approach phase is utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turning movements are easily made, and nearly all drivers find freedom of operation.
B	0.61 – 0.70	Level of service B represents stable operation. An occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel somewhat restricted within platoons of vehicles.
C	0.71 – 0.80	In level of service C stable operation continues. Full signal cycle loading is still intermittent, but more frequent. Occasionally drivers may have to wait through more than one red signal indication, and back-ups may develop behind turning vehicles.
D	0.81 – 0.90	Level of service D encompasses a zone of increasing restriction, approaching instability. Delay to approaching vehicles may be substantial during short peaks within the peak period, but enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive back-ups.
E	0.91 – 1.00	Level of service E represents the most vehicles that any particular intersection approach can accommodate. At capacity (V/C = 1.00) there may be long queues of vehicles waiting upstream of the intersection and delays may be great (up to several signal cycles).
F	> 1.000	Level of service F represents jammed conditions. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration; hence, volumes carried are not predictable. V/C values are highly variable, because full utilization of the approach may be prevented by outside conditions.

ICU – Intersection Capacity Utilization
Source: Highway Capacity Manual

4.1.3 Significant Impact Threshold

For intersections, the impact is considered significant if the project related increase in the volume to capacity (v/c) ratio equals or exceeds the threshold shown in Table 4-2.

Table 4-2 Significant Impact Threshold for Intersections

Pre-Project		Project V/C Increase
LOS	V/C	
A	0.600 or less	No Significant Impact
B	0.601 - 0.700	No Significant Impact
C	0.701 - 0.800	Equal or greater than 0.05
D	0.801 - 0.900	Equal or greater than 0.04
E	0.901 - 1.000	Equal or greater than 0.02
F	1.001 or more	Equal or greater than 0.02

Source: Table 4 of the City of Culver City Traffic Study Criteria

The project is deemed to have a significant impact on residential streets when it increases the daily traffic volume by the amounts listed in Table 4-3.

Table 4-3 Significant Impact Threshold for Two-Lane Roadways

Projected ADT With Project	Project Related Increase in ADT Volume
999 or less	120 or more
1,000 to 1,999	12 percent or more of final ADT
2,000 to 2,999	10 percent or more of final ADT
3,000 or more	8 percent or more of final ADT

Source: Table 5 of the City of Culver City Traffic Study Criteria

4.2 Trip Generation

The daily trip generation projections for the Stoneview Nature Center are based on annual attendance figures from seven comparable natural areas located throughout Los Angeles County. The expected number of daily visitors and the corresponding number of trips generated to and from the site is summarized in Table 4-4.

Table 4-4 Expected Daily Visitors and Vehicle Trips

Day	Total Daily Visitors	Average Vehicle Occupancy (persons/veh)	Inbound Trips	Outbound Trips	Total Daily Trips
Saturday	225	2	113	113	225
Sunday	275	2	138	138	275
Monday	125	2	63	63	125
Tuesday	100	2	50	50	100
Wednesday	100	2	50	50	100
Thursday	100	2	50	50	100
Friday	125	2	63	63	125

Source: Los Angeles County Department of Parks and Recreation

Weekday traffic counts are typically taken on Tuesdays, Wednesdays and Thursdays. To be conservative, the higher Monday/Friday trips numbers were used for the weekday analysis to represent the worse case. The Nature Center is expected to receive up to 125 visitors on a typical weekday and up to 275 visitors on a typical Sunday.

The average number of persons per vehicle visiting the Nature center was estimated as follows. The 2009 National Household Travel Survey[1], published by the U.S. Department of Transportation, found that the average vehicle occupancy for cars was 1.59 persons per vehicle, and the average occupancy for vans and sport utility vehicles was 2.35 and 1.92 persons per vehicle, respectively. Recreational land uses like the Nature Center are even more likely to be attended by groups of two or more persons arriving in a single vehicle. However, to be

[1] https://www1.eere.energy.gov/vehiclesandfuels/facts/2010_fotw613.html

conservative, the approximate average of the three rates (two persons per vehicle) was used in the study.

Each vehicle creates two trips associated with the site: one inbound trip and one outbound trip. The total number of vehicle trips generated by the Nature Center on a typical weekday is 125 trips, and up to 275 trips on a typical weekend day.

It is further assumed that 25% of the daily trips would occur during each peak hour. The weekday AM peak hour is the four consecutive 15-minute periods with the highest total volume between 7:00 AM and 9:00 AM. The weekday PM peak is the highest volume hour between 4:00 PM and 6:00 PM, and the weekend peak hour is the highest volume hour between 11:00 AM and 3:00 PM. While the actual arrivals to and departures from the Nature Center are expected to be more evenly distributed throughout the day, a concentration of trips during the AM, PM and weekend peak periods is assumed for the traffic analysis to represent a worst case condition.

The peak hour inbound and outbound splits for the Nature Center project are based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition rates for Regional Park land use (ITE code 417). The AM, PM and weekend peak hour rates are listed in Table 4-5.

Table 4-5 ITE Trip Generation Rates for Regional Park Land Use (417)

Independent Variable	AM Peak Hour			PM Peak Hour		
	IN	OUT	Trip Rate	IN	OUT	Trip Rate
Acres	57%	43%	0.15	44%	56%	0.26

The Nature Center would serve as a destination for school field trips, but no trip reductions were assumed for groups that would arrive by bus. No trip credits were applied for visitors that may arrive by bicycle or other alternative mode of transportation. The weekday and weekend peak hour inbound and outbound trip volumes are presented in Table 4-6.

Table 4-6 Stoneview Nature Center Trip Generation

Time	Daily Trips	Peak Period Rate	Inbound Split	Outbound Split	Total Peak Period Trips	Inbound Trips	Outbound Trips
AM Peak	125	25%	57%	43%	31	18	13
PM Peak	125	25%	44%	56%	31	14	17
Sunday	275	25%	50%	50%	69	34	34

The project site is located just east of the Baldwin Hills Scenic Overlook area, which is 68 acres of open space that includes a trailhead, a stairway to the top of the hill, a visitor center, several trails, a picnic area, an observation deck and a parking lot. The project site is enclosed by a fence, and there is currently no connection between the project site and the Overlook area.

The Park to Playa Trail project would be an approximate 7.0-mile system of walking, hiking and bicycle trails running east-southerly through parks and open space in the Baldwin Hills. The Park to Playa Trail project proposes to install a six-foot-wide natural surface trail that would extend from the Baldwin Hills Scenic Overlook area to La Cienega Boulevard to provide a connection to the Kenneth Hahn State Recreational Area (KHSRA). This new trail would travel through 18 acres of land that is currently used for oilfield operations and is not accessible to the public. This segment of the Park to Playa Trail project would also include an interpretive node near the southwestern corner of the Stoneview Nature Center site that would consist of seat walls, a planting area, and interpretive signage.

The Park to Playa Trail project will fill gaps in the existing trail network, and is expected to be used by people who currently utilize the existing area trails. It is not anticipated to attract a significant number of new visitors to the Scenic Overlook area, and any new vehicle trips are expected to park in the Overlook surface lot on Hetzler Road. The Initial Study/Mitigated Negative Declaration (IS/MND) for the Park to Playa Trail project identifies the parking lots at the Baldwin Hills Scenic Overlook, Culver City Park and the KHRSA as serving the Park to Playa Trail.

For the purpose of this analysis, it is assumed that a gate or opening will be provided between the Stoneview Nature Center site and the new Park to Playa Trail. Since it will be possible to park in the Stoneview surface lot to access the Park to Playa Trail, the estimated number of people who would use the Stoneview Nature Center as a trailhead has been included in the visitor projections provided in Table 4-6.

4.3 Trip Distribution

The project trip distribution through the general study area is based on current traffic patterns. Regional trip distribution is based on the Regional Daily Trip Distribution Factors contained in Exhibit D-3 of the Congestion Management Program (CMP) Land Use Analysis Guidelines, and is generally defined as:

- To and from the North: 25%
- To and from the South: 29%
- To and from the East: 28%
- To and from the West: 18%

The distribution of trips through the study area intersections is shown in Figure 4.1, and the peak hour project trips are shown in Figure 4.2. The existing Year 2013 With Project volumes are also presented in Figure 4.3.

4.4 Ambient Traffic Growth

Exhibit D-1 of the Guidelines for CMP Transportation Impact Analysis lists general traffic volume growth factors for the Los Angeles County Regional Statistical Areas. The growth factor for West/Central L.A. for the period from 2010 to 2015 is 1.007, which is equivalent to cumulative growth of 0.14% per year. Culver City uses an annual growth rate of 1% per year to forecast ambient traffic growth for its traffic impact analyses. To be conservative, a growth factor of 1.03 (equivalent to 1% annual growth over a three year period) has been applied to the Year 2013 count data to estimate Year 2016 volumes.

Figure 4.4 shows the Opening Year 2016 No Project volumes for the AM peak, PM peak and weekend peak conditions. This figure shows ambient traffic growth only, and does not include cumulative project trip volumes.

FIGURE 4.1 PROJECT TRIP DISTRIBUTION

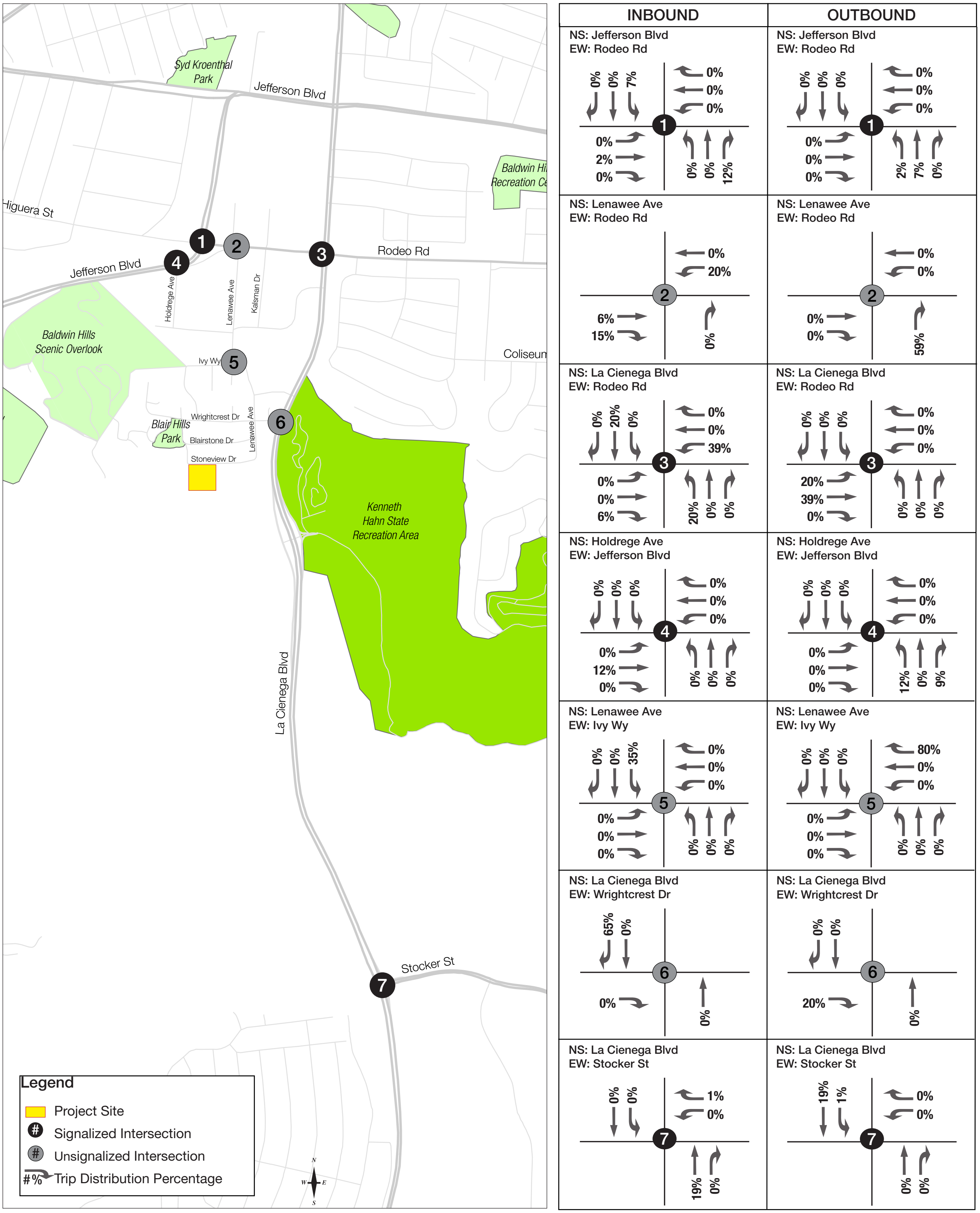
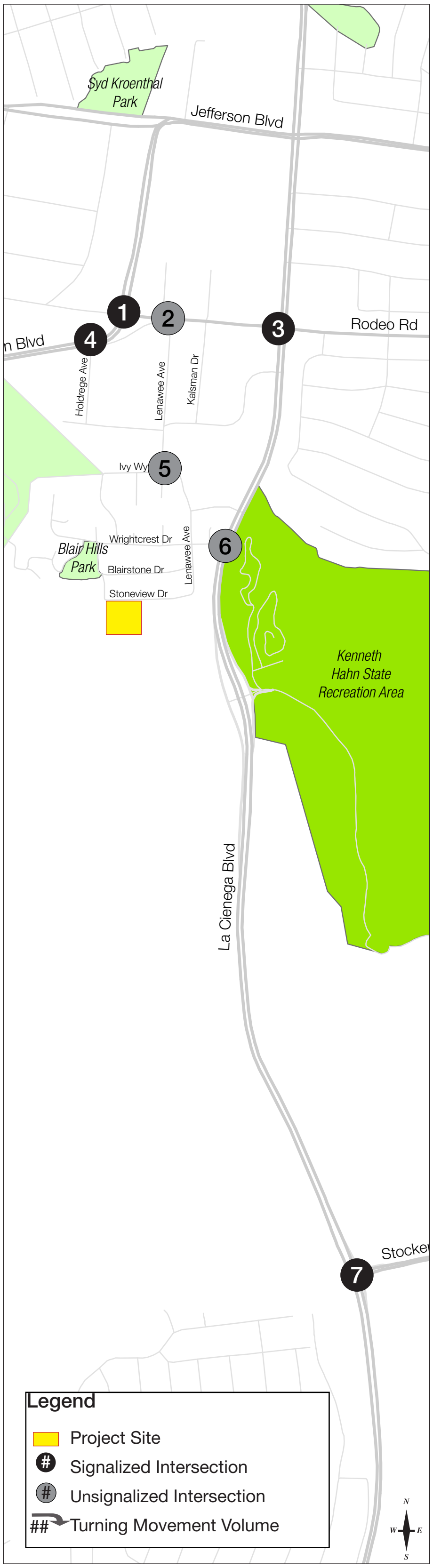


FIGURE 4.2 PEAK HOUR PROJECT TRIPS



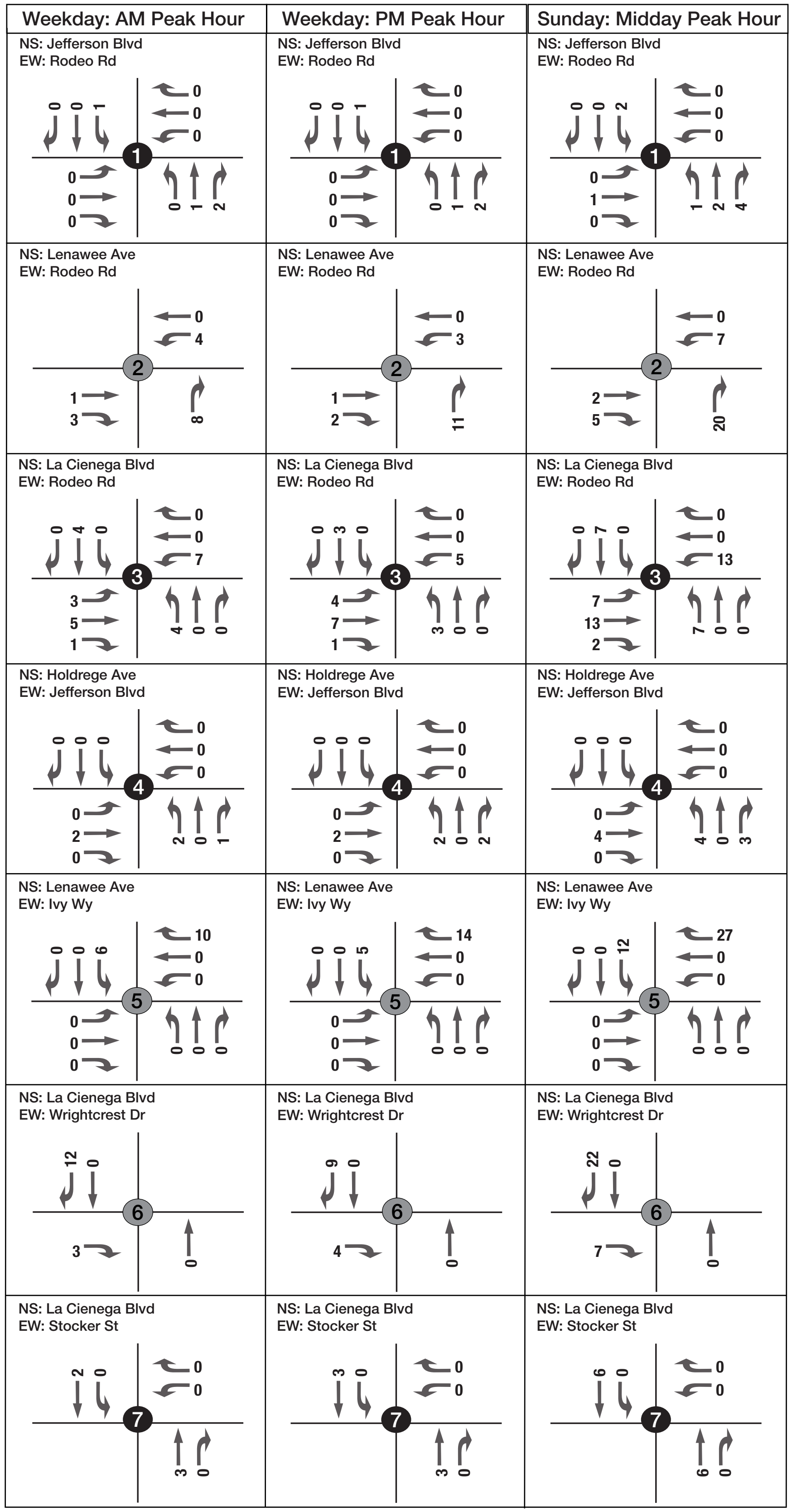


FIGURE 4.3 EXISTING (YEAR 2013) WITH PROJECT VOLUMES

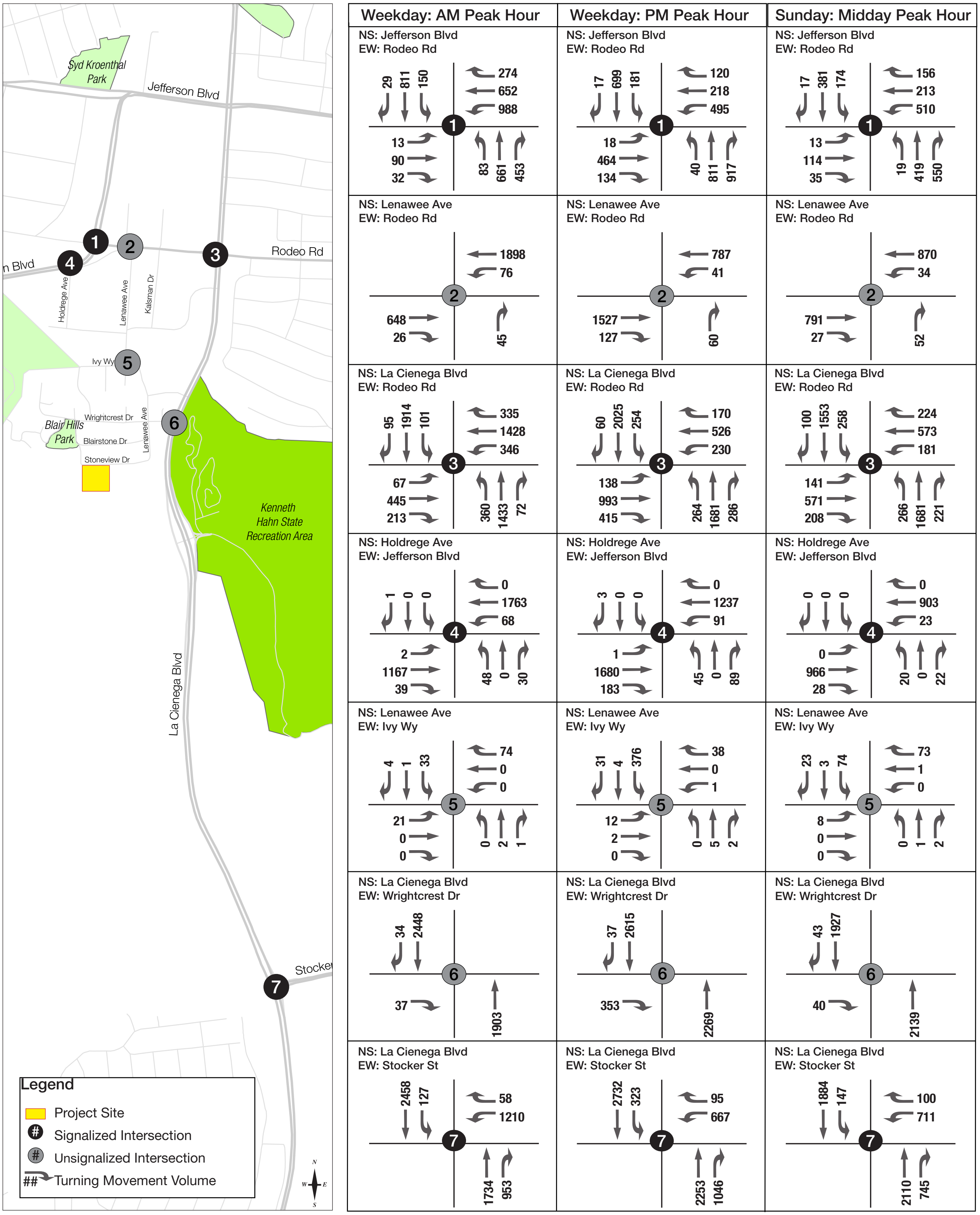
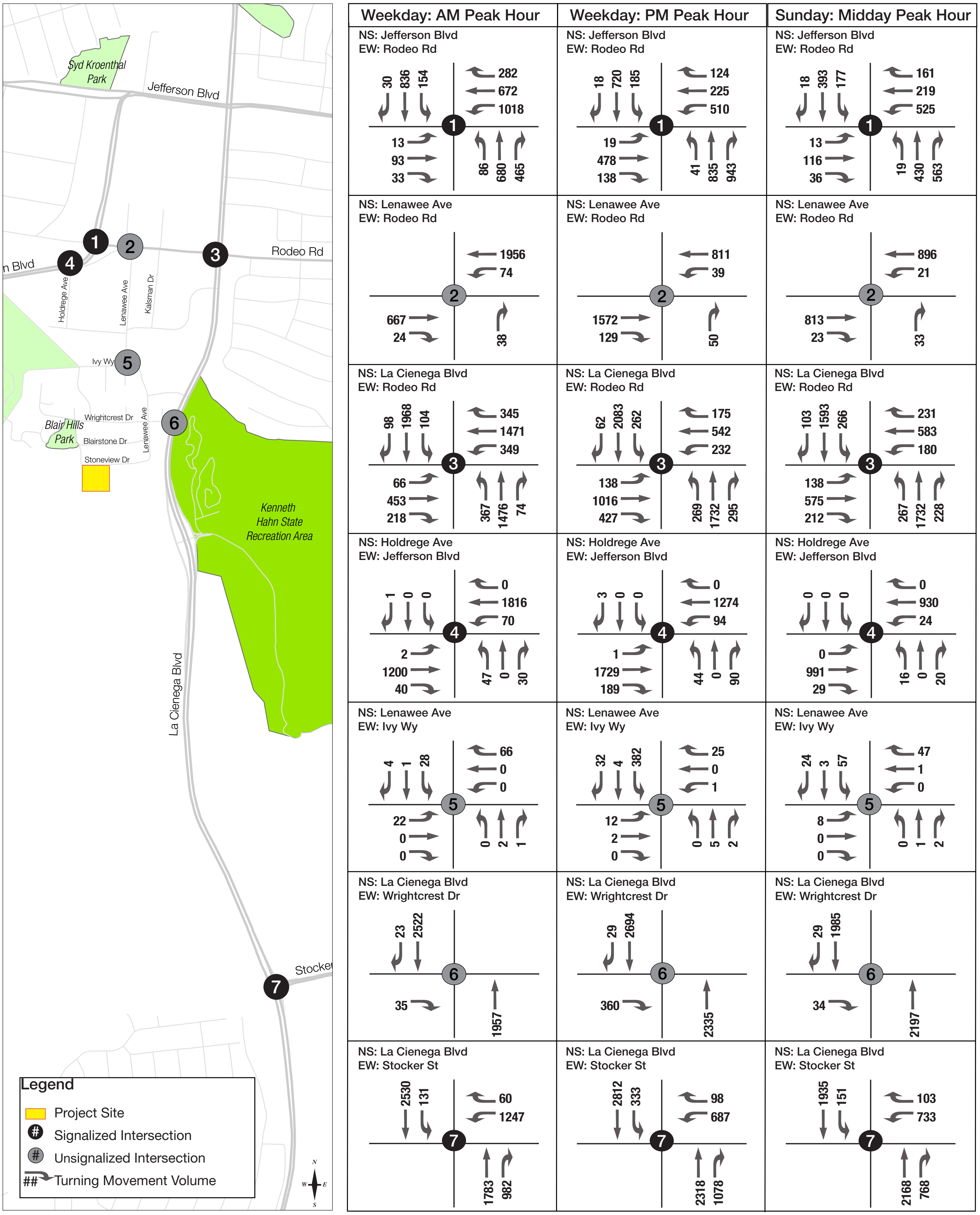


FIGURE 4.4 OPENING (YEAR 2016) NO PROJECT VOLUMES



4.5 Related Projects List

Twenty related projects were identified within a 1.5 mile radius of the project site. The locations of these projects are shown in Figure 4.5.

The peak hour and daily trips generated by the related projects were based on the ITE Trip Generation Manual, 9th Edition. The peak hour trips generated by the related projects are summarized in Table 4-7. The cumulative related projects are expected to generate approximately 3,136 AM peak hour trips, 2,887 PM peak hour trips and 1,636 weekend peak hour trips.

The Opening (Year 2016) Cumulative Base volumes are shown in Figure 4.6, and the Opening (Year 2016) Cumulative Base Plus Project volumes are shown in Figure 4.7.

Table 4-7 Summary of Related Project Trips

Project Name/ Address	Land Use	ITE Code	Qty	AM Peak		PM Peak		Weekend Peak	
				IN	OUT	IN	OUT	IN	OUT
4014 Van Buren Pl.	Condos	230	4 DU	0	1	1	1	1	1
4043 Irving Place	Apartment	220	26 DU	4	10	11	7	7	7
	Gen Office	710	1.4 TSF	2	0	0	2	0	0
Lux @ 9901 Mixed Use 9901 Washington Blvd, Los Angeles	Apartment	220	131 DU	21	51	54	34	33	33
	Retail	826	12.2 TSF	40	43	34	27	0	0
Abraxis Bio Science 9920 Jefferson Blvd.	Gen Office	710	20.5 TSF	28	4	5	25	2	1
Hackman Capital 8600 Hayden Place	Gen Office	710	32 TSF	44	6	8	40	3	2
Madison Apartments 4034 Madison	Condos	230	2 DU	0	1	1	0	0	0
Union 76 10638 Culver Blvd.	Gas Station w/Market (56% pass by)	945	8 Fuel Positions	140	135	171	171	318	306
Washington/Landmark Mixed Use TOD 8810 Washington Blvd	High Turnover Restaurant	932	10 TSF	59	49	59	39	102	83
	Retail	826	31.7 TSF	104	113	89	70	0	0
	Gen Office	710	38.7 TSF	53	7	10	48	4	3
Duquesne Ave Condos 4139-4145 Duquesne Av	Condos	230	7 DU	1	2	2	1	2	2
Rethink Development 8665 Hayden Place	Gen Office	710	62.8 TSF	86	12	16	78	6	4
Legado Mixed Use TOD 8770 Washington Blvd.	Apartment	220	115 DU	18	45	47	30	29	29
	Retail	826	31.2 TSF	102	111	88	69	0	0
9919 Jefferson Blvd	Gen Office	710	91.7 TSF	126	17	23	113	9	6
4058 Madison Avenue	Condos	230	4 DU	0	1	1	1	1	1
Parcel B 9300 Culver Blvd	Gen Office	710	74.6 TSF	102	14	19	92	7	5
	Retail	826	21.7 TSF	71	77	61	48	0	0
	High Turnover Restaurant	932	21.7 TSF	129	106	128	85	220	180
Warner Parking Structure 8511 Warner Drive	Retail	826	40 TSF	131	142	112	88	0	0
	High Turnover Restaurant	932	10 TSF	59	49	59	39	102	83

Project Name/ Address	Land Use	ITE Code	Qty	AM Peak		PM Peak		Weekend Peak	
				IN	OUT	IN	OUT	IN	OUT
West LA College Community College Master Plan and EIR (2010)	College	550	6,752 Students	623	65	458	204	0	0
Culver Studios Amend 6 9336 Washington Blvd.	Gen Office	710	38.7 TSF	53	7	10	48	4	3
Fresh Paint 9355 Culver Boulevard	Apartment	220	1 DU	0	0	0	0	0	0
	Gen Office	710	2.8 TSF	4	1	1	3	0	0
Willows School (K-8) 8509 Higuera and 8476 Warner	Private School (K-8)	534	50 Students	25	20	14	16	0	0
Jazz Bakery 9814 Washington Boulevard	Live Theater	441	250 Seats			3	3	0	0
	High Turnover Restaurant	932	2 TSF	12	10	12	8	20	17
Total Trips				2,037	1,099	1,497	1,390	870	766

4.6 Level of Service Results

The results of the AM Peak Hour, PM Peak Hour and Weekend Peak Hour intersection level of service analyses are summarized in Table 4-8, Table 4-9 and Table 4-10, respectively. The TRAFFIX analysis worksheets are provided in the Appendix. Based on City of Culver City Traffic Study Criteria, there are no significant impacts to study intersections associated with the project in the Existing (Year 2013) nor Opening (Year 2016) With Project conditions.

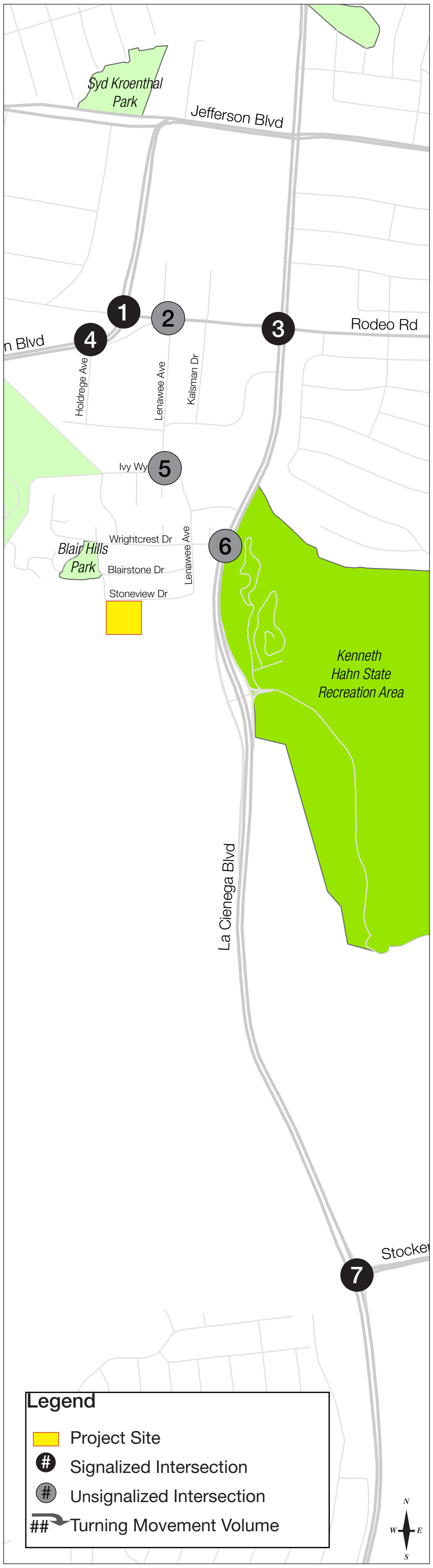
FIGURE 4.5 RELATED PROJECT LOCATIONS

Legend

Project Site

Related Projects

FIGURE 4.6 OPENING (YEAR 2016) CUMULATIVE BASE VOLUMES



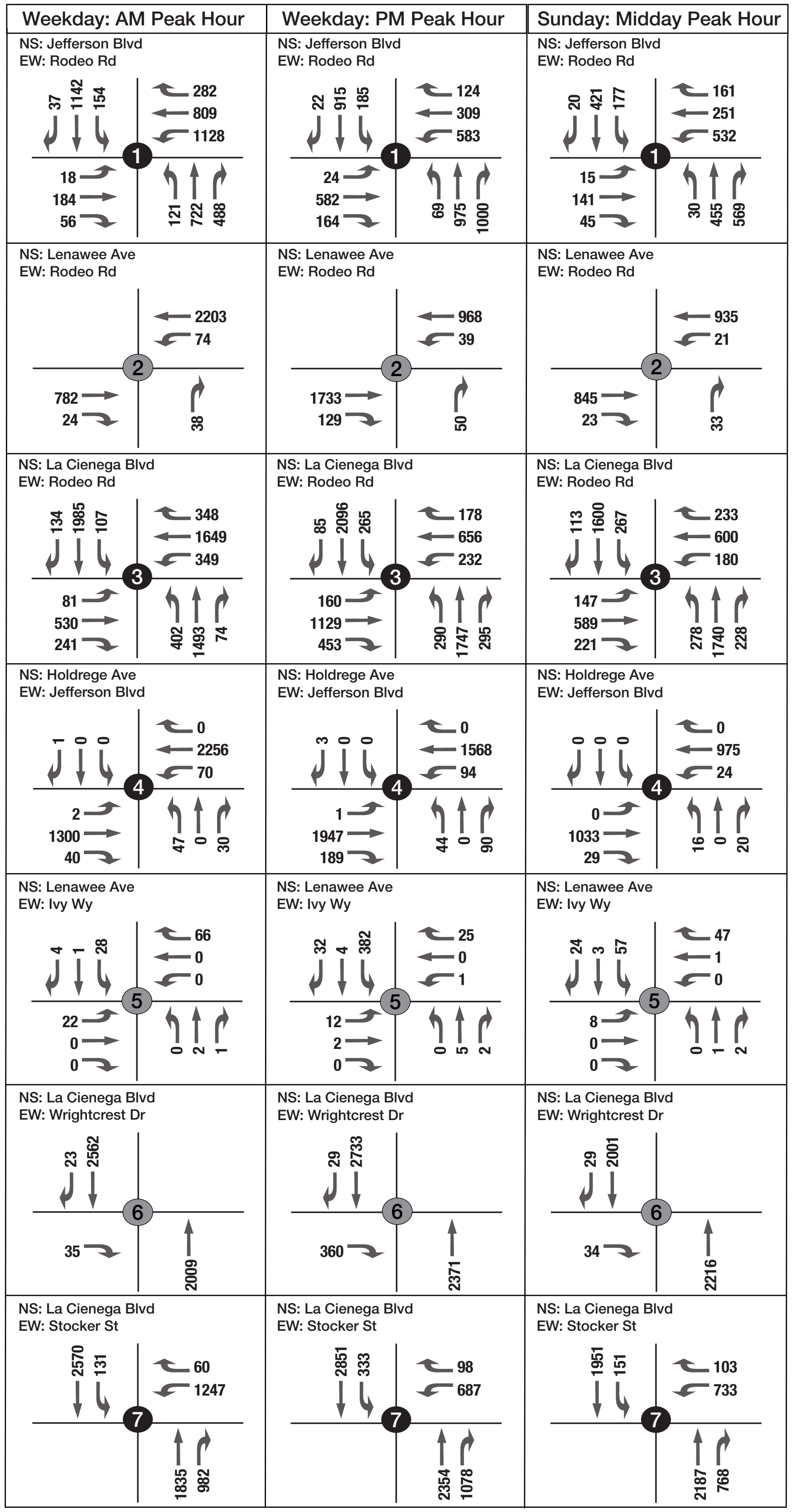
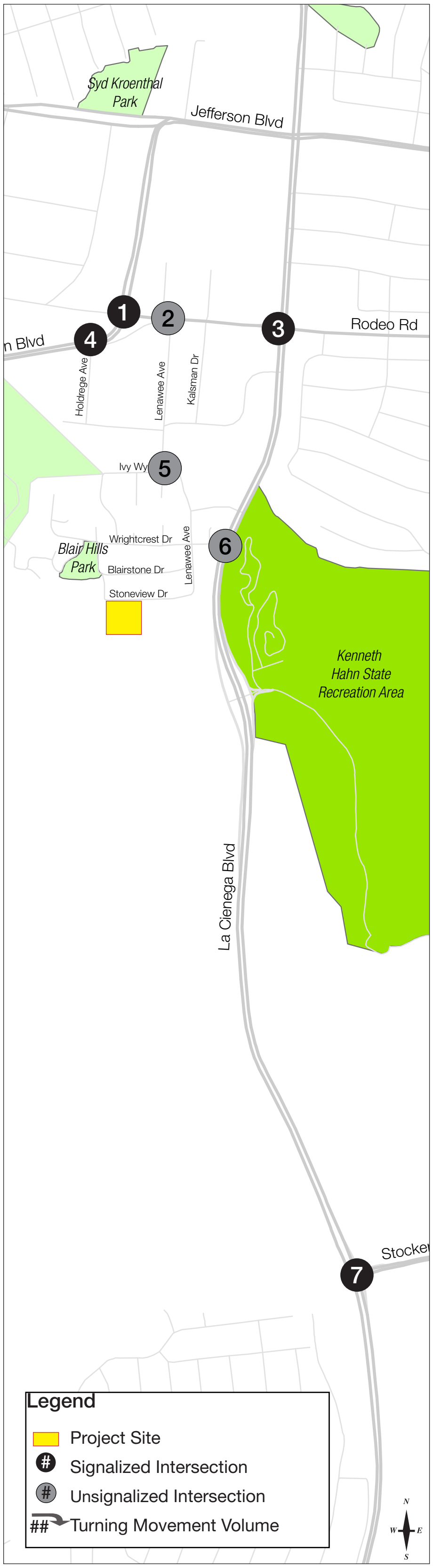


FIGURE 4.7 OPENING (YEAR 2016) CUMULATIVE BASE PLUS PROJECT VOLUMES



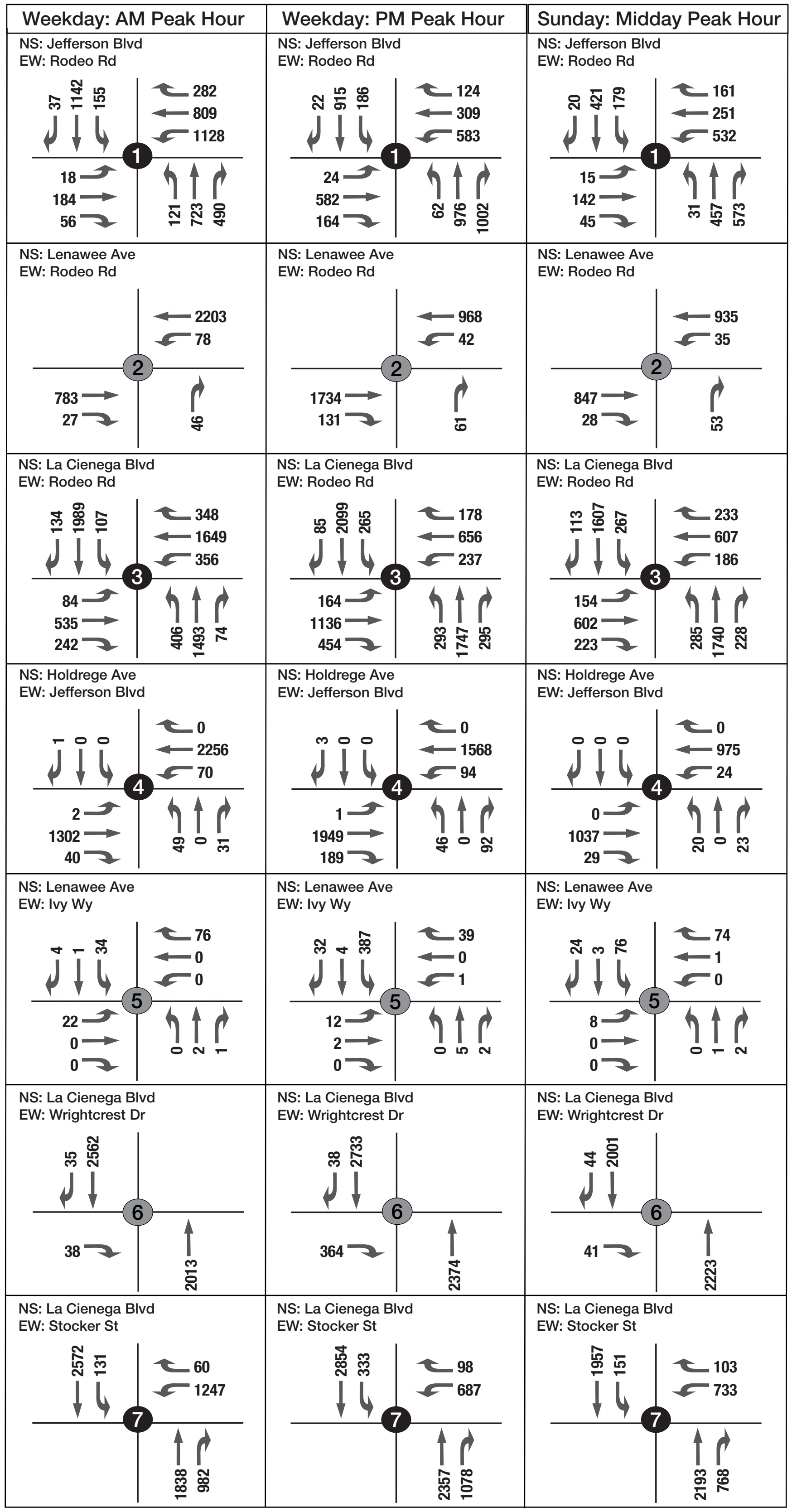


Table 4-8 Intersection Level of Service Analysis Results – Weekday AM Peak Hour

No.	Intersection	Control	"A" Existing (Year 2013) Conditions		"B" Existing (Year 2013) With Project Conditions		"C" New Project Traffic Impact Yes or No?	"D" Project Buildout (Year 2016) Cumulative Base		"E" Buildout (Year 2016) With Project Conditions		"F" New Project Traffic Impact Yes or No?	"G" Buildout Project With Traffic Mitigation		"H" Net Project Traffic Conditions Impact	"I" Total Project Significant Impact Yes or No?
			V/C	LOS	V/C	LOS		V/C	LOS	V/C	LOS		V/C	LOS	V/C	
1	Jefferson Blvd & Rodeo Rd	Signal	0.815	D	0.821	D	No	1.049	F	1.049	F	No	N/A	N/A	0.000	No
2	Lenawee Ave & Rodeo Rd	2-Way Stop	0.077	A	0.082	A	No	0.089	B	0.095	B	No	N/A	N/A	0.006	No
3	La Ciegena Blvd & Rodeo Rd	Signal	1.108	F	1.112	F	No	1.219	F	1.223	F	No	N/A	N/A	0.004	No
4	Holdrege Ave & Jefferson Blvd	Signal	0.599	A	0.601	B	No	0.754	C	0.756	C	No	N/A	N/A	0.002	No
5	Lenawee Ave & Ivy Way	4-Way Stop	0.061	A	0.071	A	No	0.063	A	0.073	A	No	N/A	N/A	0.010	No
6	La Cienega Blvd & Wrightcrest Dr	Yield	0.000	A	0.000	A	No	0.000	A	0.000	A	No	N/A	N/A	0.000	No
7	La Cienega Blvd & Stocker St	Signal	1.288	F	1.288	F	No	1.336	F	1.337	F	No	N/A	N/A	0.001	No

Table 4-9 Intersection Level of Service Analysis Results – Weekday PM Peak Hour

No.	Intersection	Control	"A" Existing (Year 2013) Conditions		"B" Existing (Year 2013) With Project Conditions		"C" New Project Traffic Impact Yes or No?	"D" Project Buildout (Year 2016) Cumulative Base		"E" Buildout (Year 2016) With Project Conditions		"F" New Project Traffic Impact Yes or No?	"G" Buildout Project With Traffic Mitigation		"H" Net Project Traffic Conditions Impact	"I" Total Project Significant Impact Yes or No?
			V/C	LOS	V/C	LOS		V/C	LOS	V/C	LOS		V/C	LOS	V/C	
1	Jefferson Blvd & Rodeo Rd	Signal	0.783	C	0.783	C	No	0.905	E	0.906	E	No	N/A	N/A	0.001	No
2	Lenawee Ave & Rodeo Rd	2-Way Stop	0.104	C	0.128	C	No	0.119	C	0.145	C	No	N/A	N/A	0.026	No
3	La Ciegena Blvd & Rodeo Rd	Signal	1.061	F	1.068	F	No	1.135	F	1.142	F	No	N/A	N/A	0.007	No
4	Holdrege Ave &	Signal	0.720	C	0.723	C	No	0.810	D	0.813	D	No	N/A	N/A	0.003	No

No.	Intersection	Control	"A" Existing (Year 2013) Conditions		"B" Existing (Year 2013) With Project Conditions		"C" New Project Traffic Impact Yes or No?	"D" Project Buildout (Year 2016) Cumulative Base		"E" Buildout (Year 2016) With Project Conditions		"F" New Project Traffic Impact Yes or No?	"G" Buildout Project With Traffic Mitigation		"H" Net Project Traffic Conditions Impact	"I" Total Project Significant Impact Yes or No?
			V/C	LOS	V/C	LOS		V/C	LOS	V/C	LOS		V/C	LOS	V/C	
	Jefferson Blvd															
5	Lenawee Ave & Ivy Way	4-Way Stop	0.468	B	0.478	B	No	0.482	B	0.493	B	No	N/A	N/A	0.011	No
6	La Cienega Blvd & Wrightcrest Dr	Yield	0.000	A	0.000	A	No	0.000	A	0.000	A	No	N/A	N/A	0.000	No
7	La Cienega Blvd & Stocker St	Signal	1.184	F	1.185	F	No	1.229	F	1.230	F	No	N/A	N/A	0.001	No

Table 4-10 Intersection Level of Service Analysis Results – Weekend Peak Hour

No.	Intersection	Control	"A" Existing (Year 2013) Conditions		"B" Existing (Year 2013) With Project Conditions		"C" New Project Traffic Impact Yes or No?	"D" Project Buildout (Year 2016) Cumulative Base		"E" Buildout (Year 2016) With Project Conditions		"F" New Project Traffic Impact Yes or No?	"G" Buildout Project With Traffic Mitigation		"H" Net Project Traffic Conditions Impact	"I" Total Project Significant Impact Yes or No?
			V/C	LOS	V/C	LOS		V/C	LOS	V/C	LOS		V/C	LOS	V/C	
1	Jefferson Blvd & Rodeo Rd	Signal	0.550	A	0.552	A	No	0.582	A	0.584	A	No	N/A	N/A	0.002	No
2	Lenawee Ave & Rodeo Rd	2-Way Stop	0.044	B	0.072	B	No	0.047	B	0.075	B	No	N/A	N/A	0.028	No
3	La Ciegena Blvd & Rodeo Rd	Signal	0.870	D	0.877	D	No	0.899	D	0.907	E	No	N/A	N/A	0.008	No
4	Holdrege Ave & Jefferson Blvd	Signal	0.346	A	0.351	A	No	0.369	A	0.375	A	No	N/A	N/A	0.006	No
5	Lenawee Ave & Ivy Way	4-Way Stop	0.090	A	0.115	A	No	0.094	A	0.118	A	No	N/A	N/A	0.024	No
6	La Cienega Blvd & Wrightcrest Dr	Yield	0.000	A	0.000	A	No	0.000	A	0.000	A	No	N/A	N/A	0.000	No
7	La Cienega Blvd & Stocker St	Signal	0.934	E	0.936	E	No	0.964	E	0.966	E	No	N/A	N/A	0.002	No

4.7 Signal Warrant Analysis

Chapter 4 of the Manual on Uniform Traffic Control Devices (MUTCD) includes criteria to determine if a traffic signal may be warranted at a stop-controlled or uncontrolled intersection. Traffic control may be needed if the criteria for one or more of the traffic signal warrants listed in Table 4-11 are met. If none of the warrants are satisfied, then a traffic signal should not be installed. However, the satisfaction of a traffic signal warrant or warrants does not in itself require the installation of traffic control signal. A signal should not be installed if it will seriously disrupt progressive traffic flow or if it will not improve overall safety or operation of the intersection.

Table 4-11: MUTCD Signal Warrants

Warrant		Intended Application	Based On
1	Eight-Hour Vehicular Volume	Where a large volume of intersecting traffic occurs throughout the day	Approach volumes over an 8-hour period
2	Four-Hour Vehicular Volume	Where both the major and minor streets experience high volumes during any 4 hours during the day	Volumes during the 4 highest hours
3	Peak Hour	Where the minor-street traffic suffers undue delay for a minimum of 1 hour of an average day	Peak hour approach volumes
4	Pedestrian Volume	Where traffic is so heavy that peds experience excessive delay when crossing the major street	Ped and major street volumes, traffic gaps
5	School Crossing	Where the fact that school children cross the major street is the main reason to consider a traffic signal	Distance to nearest signal, volumes
6	Coordinated Signal System	To maintain progressive movement and properly platoon vehicles in a coordinated signal system	Distance between signals, platooning
7	Crash Experience	Where the severity and frequency of crashes are the principal reason to consider installing a signal	Crash history, 8-hour volumes, speed limit
8	Roadway Network	To encourage concentration and organization of traffic flow on a roadway network	Peak hour and forecast volumes

Source: Manual on Uniform Traffic Control (MUTCD) Chapter 4C

A peak hour signal warrant calculation for the unsignalized study intersections and the project access driveway was conducted as part of this analysis. For intersections where the major street has a speed limit of 40 miles per hour or less, the thresholds in MUTCD Figure 4C-3 for Signal Warrant 3, Peak Hour apply. For intersections where the major street has a speed limit above 40 miles per hour, the thresholds in MUTCD Figure 4C-4 for Signal Warrant 3, Peak Hour (70% Factor) apply.

The signal warrant analysis results for Lenawee Avenue & Rodeo Road (#2), Lenawee Avenue & Ivy Way (#5), and the Stoneview access driveway are summarized in Tables 4-12, 4-13 and 4-14. The major street is Lenawee Avenue, which has a posted speed limit of 25 miles per hour, so the thresholds in Figure 4C-3 for Signal Warrant 3, Peak Hour apply. Based on the forecast approach volumes, traffic signals are not warranted at any of these intersections in the With Project condition.

Table 4-12: MUTCD Peak Hour Signal Warrant Analysis: Lenawee Avenue and Rodeo Road (#2)

Major Street: Rodeo Road – 3 lanes in each direction					Speed Limit: 35 MPH			
Minor Street: Lenawee Avenue – 1 lane in each direction								
Scenario	**No Project**				**With Project**			
	Major Volume (Both Approaches)	Minor Volume (Highest Approach)	Threshold on Minor Street	Warrant Met	Major Volume (Both Approach)	Minor Volume (Highest Approach)	Threshold on Minor Street	Warrant Met
2013 AM	2,640	37	100	No	2,648	45	100	No
2013 PM	2,476	49	100	No	2,482	60	100	No
2013 Sun	1,701	32	100	No	1,722	52	100	No
2016 CB AM	3,083	38	100	No	3,091	46	100	No
2016 CB PM	2,869	50	100	No	2,875	61	100	No
2016 CB Sunday	1,824	33	100	No	1,845	53	100	No

Table 4-13: MUTCD Peak Hour Signal Warrant Analysis: Lenawee Avenue and Ivy Way (#5)

Major Street AM Peak: Ivy Way – 1 lane in each direction					Speed Limit: 25 MPH			
Major Street PM Peak: Lenawee Avenue – 1 lane in each direction					Speed Limit: 25 MPH			
Scenario	**No Project**				**With Project**			
	Major Volume (Both Approaches)	Minor Volume (Highest Approach)	Threshold on Minor Street	Warrant Met	Major Volume (Both Approach)	Minor Volume (Highest Approach)	Threshold on Minor Street	Warrant Met
2013 AM	85	32	877	No	95	38	847	No
2013 PM	413	25	455	No	418	39	452	No
2013 Sun	84	47	880	No	103	74	826	No
2016 CB AM	88	33	868	No	98	39	839	No
2016 CB PM	425	26	448	No	430	40	444	No
2016 CB Sunday	87	48	871	No	106	75	818	No

Table 4-14: MUTCD Peak Hour Signal Warrant Analysis: Project Driveway and Stoneview Drive

Major Street: Stoneview Drive – 1 lanes in each direction					Speed Limit: 25 MPH			
Minor Street: Project Access Driveway – 1 lane in each direction								
Scenario	**No Project**				**With Project**			
	Major Volume	Minor Volume	Threshold on Minor Street	Warrant Met	Major Volume	Minor Volume	Threshold on Major/ Minor Street	Warrant Met
2013 AM	11	N/A	N/A	N/A	29	13	1,600/ 100	No
2013 PM	15	N/A	N/A	N/A	29	18	1,600/ 100	No
2013 Sun	14	N/A	N/A	N/A	48	34	1,600/ 100	No
2016 CB AM	11	N/A	N/A	N/A	29	13	1,600/ 100	No
2016 CB PM	15	N/A	N/A	N/A	29	18	1,600/ 100	No
2016 CB Sunday	14	N/A	N/A	N/A	48	34	1,600/ 100	No

4.8 Residential Street Analysis

The residential street analysis for the Lenawee Avenue, Wrightcrest Drive and Stoneview Drive segments that provide access to and from the project area is summarized in Table 4-15. The weekend analysis is provided in Table 4-16. Based on the City of Culver City thresholds, the project would create a significant impact on Lenawee Avenue and Stoneview Drive on the weekend.

Table 4-15 Weekday Analysis of Study Residential Streets

Road	Segment	Existing Daily Volume	Project Trips	Daily Traffic With Project	Threshold (Project Trips) for Significant Impact	Impact Yes or No?
Lenawee Ave	Wrightcrest to Stoneview	300	100	400	120	No
Wrightcrest Dr	Stoneview to Lenawee	713	25	738	120	No
Stoneview Dr	Project Site to Lenawee	116	100	216	120	No

Table 4-16 Weekend Analysis of Study Residential Streets

Road	Segment	Existing Daily Volume	Project Trips	Daily Traffic With Project	Threshold (Project Trips) for Significant Impact	Impact Yes or No?
Lenawee Ave	Wrightcrest to Stoneview	285	220	505	120	Yes
Wrightcrest Dr	Stoneview to Lenawee	668	55	723	120	No
Stoneview Dr	Project Site to Lenawee	104	220	324	120	Yes

5 Parking Analysis

5.1 Parking Supply

The proposed project includes plans for two surface parking lots. The surface parking would include a small parking lot with 16 spaces and a larger parking lot with 45 spaces. The two lots would be located adjacent to each other at the northwest corner of the site. Access to the surface lots would be provided via a single gated driveway on Stoneview Drive.

5.2 Parking Requirements

The Stoneview interpretive center site plan shows a 2,064-square-foot assembly area, plus an additional 1,936 square feet of support area that includes a lobby, office space, restrooms and equipment rooms.

Section 22.52.1175 of the Los Angeles County, California Code of Ordinances provides off-street parking requirements for public park facilities. The County Planning and Zoning ordinance stipulates that publicly owned parks less than 50 acres in size shall provide one automobile parking space for each 45 square feet of floor area in the largest public assembly area, plus one automobile parking space for every 400 square feet of remaining floor area in the building. The off-street parking requirements are tabulated for the proposed project in Table 5-1.

Table 5-1 Los Angeles County Off-Street Parking Requirements

Area	Size	Parking Requirement Rate[1]	Number of Parking Spaces Required	Parking Spaces Provided
Assembly Area	2,064 SQFT	1 space per 45 SQFT	46 spaces	45 spaces
Support Spaces	1,936 SQFT	1 space per 400 SQFT	5 spaces	16 spaces
Total	4,000 SQFT		51 spaces	61 spaces

1. Source: Los Angeles County, California Code of Ordinances Section 22.52.1175

Section 17.320.020 of the Culver City Zoning Code provides the minimum number of off-street parking spaces required by land use. Nature Center is not an explicitly listed land use, so the general rate for assembly uses, religious places of worship, clubs, mortuaries with congregational services, meeting halls, membership organizations, sports arenas, stadiums and theaters in Table 3-3C, for recreation, education and public assembly uses was applied. The off-street parking requirement is calculated in Table 5-2.

Table 5-2 City of Culver City Off-Street Parking Requirements

Area	Size	Parking Requirement Rate[1]	Number of Parking Spaces Required	Parking Spaces Provided
Assembly Area with No Fixed Seats	2,064 SQFT	1 space per 35 SQFT	59 spaces	59 spaces
Office Space	740 SQFT	1 space per 350 SQFT	2 spaces	2 spaces
Total			61 spaces	61 spaces

1. Source: Culver City Zoning Code Section 17.320.020
2. There is approximately 200 square feet of office space and 540 square feet of lobby area shown on the site plan.

5.3 Parking Demand Generation

The ITE Parking Generation Manual, 4th Edition provides averages, ranges, and statistical quality values of parking demand generated by various land uses. There is no rate available for nature center use, but some similar types of land uses and the associated parking demand are summarized in Table 5-3.

Table 5-3 ITE Parking Generation

Use Classification	Unit	Quantity	ITE Rate (Spaces/Unit)	Peak Parking Generation
411 City Park	Acres	5.0	2.80	14
435 Multipurpose Recreational Facility	TSF	4.0	10.67	43
495 Recreational Community Center	TSF	4.0	4.00	16

Source: ITE Trip Generation Manual, 4th Edition
Quantities: DU = dwelling units. TSF = Thousand Square Feet
Note: If both weekday and weekend rates are available, the higher rate was selected for this table.

The ITE Parking Generation Manual rates for City Park, Multipurpose Recreational Facility and Recreational Community Center suggests that based on observations made at similar types of uses, the parking demand at the Stoneview Nature Center Site may vary between 14 and 43 parking spaces. Based on the projected visitor attendance developed in the Trip Generation section, the maximum number of expected visitors to the site on a typical Sunday would be 69. With an assumed average occupancy of two people per vehicle, the peak parking demand for visitors is expected to be 35 parking spaces. This analysis suggests that the 61 parking spaces provided would be sufficient to meet the needs of the Nature Center for typical use.

It is anticipated that schools would bring groups of children to the Nature Center for field trips, but they are expected to arrive by bus and create minimal impacts to traffic or parking.

If the Los Angeles County Department of Parks and Recreation chooses to allow the Nature Center to be used for special events, it is recommended that a Parking Management Plan be developed to help staff identify conditions that would require active parking management. The plan should provide strategies to address varying levels of parking demand to ensure that demand does not exceed supply, and prevent overflow parking from encroaching onto neighborhood streets. If a special event is expected to generate parking demand that exceeds supply, an alternative offsite parking lot should be identified and a shuttle service provided between the offsite parking lot and the Nature Center site. The plan should also identify shuttle routes, headways, and directional signage locations.

6 CMP Roadway Analysis

The CMP guidelines for determining the analysis study area for CMP arterial monitoring intersections and for freeway monitoring locations are:

- All CMP arterial monitoring intersections where the proposed project will add 50 or more trips during either the AM or PM weekday peak hours of adjacent street traffic.
- All CMP mainline freeway monitoring locations where the proposed project will add 150 or more trips in either direction during either the AM or PM weekday peak hours.

The 2010 Congestion Management Program for Los Angeles County indicates a significant impact occurs for an intersection when the proposed project increases traffic demand on a CMP facility by 2 percent (2%), causing LOS F (V/C ≥ 1.00); if the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand by 2 percent of capacity (V/C ≥ 0.02).

Table 6-1: Criteria for Determining a Significant Impact

Intersection Delay with Project Traffic	Significant Increase in Delay
V/C ≥ 1.00	≥0.02

Source: Congestion Management Program for Los Angeles County, 2010

6.1.1 Arterial Monitoring Intersection Analysis

La Cienega Boulevard is identified as part of the Congestion Management Plan (CMP) Highway and Roadway System for Los Angeles County. The nearest CMP arterial monitoring intersection is the intersection of La Cienega Boulevard and Jefferson Boulevard (CMP ID 46), which is located approximately 1.2 miles north of the project site. Based on the proposed project trip generation projections from this study, the proposed project is not expected to add 50 or more trips per hour to this location. Therefore, no further analysis of this CMP monitoring intersection is required.

6.1.2 Freeway Segment (Mainline) Analysis

The nearest mainline freeway monitoring location to the project site is the I-10 freeway east of the La Brea Avenue undercrossing (CMP Station 1012), which is approximately 3 miles northeast of the site. Based on the proposed project trip generation projections, the project is not forecast to add 150 or more new peak hour trips onto the freeway mainline. No further analysis of this CMP monitoring intersection is required.

7 Recommendations and Mitigation Measures

The project is not forecast to result in any significant impacts to study area intersections based on the City of Culver City thresholds for significant impacts, and is not required to contribute toward any fair share costs for intersection improvements.

Based on County projections of visitors to the Stoneview Nature Center, the project is expected to increase the daily traffic volume on Lenawee Avenue and Stoneview Drive by more than 120 vehicles on the weekend, which meets the City of Culver City criteria for significant impact on streets that currently carry less than 1,000 vehicles per day. The following mitigation measures are identified to address the significant impacts. These mitigation measures are consistent with the toolbox of mitigation measures identified as acceptable by Culver City in the city's traffic study criteria.

- A traffic monitoring program shall be established that includes taking "before-project" traffic counts and speed surveys on Stoneview Drive and Lenawee Avenue prior to construction, and "after-project" traffic counts and speed surveys once the Stoneview Nature Center is open and operating. The data will be compared to determine the actual increase in daily traffic and traffic speeds on these streets before and after the project. The County of Los Angeles and Culver City has drafted a Memorandum of Understanding (MOU) documenting that the County is responsible for contributing up to $100,000 towards physical and operational improvements to address any traffic issues identified through the traffic counts and speed surveys.
- It is recommended that the Stoneview Nature Center not be identified as an official trailhead in any Park to Playa Trail project documents or published materials. While it is possible that some hikers who are not interested in visiting the Nature Center may park in the Stoneview parking lot to access the trails, visitors should be encouraged to park in one of the other available public parking lots. The Stoneview Nature Center parking lot shall not be identified in any printed or electronic maps produced as part of the Park to Playa Trail project, and no signage installed as part of the Park to Playa Trail project should direct vehicles toward the Stoneview site.
- The Los Angeles County Department of Parks and Recreation shall limit the attendance at special events held at the Stoneview Nature Center to a level that can reasonably be accommodated by the surface parking lot. Unless provisions have been made for a large group to arrive by bus or other alternative mode of transportation, at least one parking space should be allocated per staff member and one parking space allocated for every two visitors or guests so as not to exceed parking capacity.
- If Stoneview intends to hold special events with more than 90 attendees and staff arriving in private vehicles, a special event parking management plan should be developed to identify an off-site parking location, shuttle service routes and headways, and directional signage locations.

APPENDIX H

RESPONSES TO COMMENTS

COMMENT SET A

COMMENTS PROVIDED BY CULVER CITY IN "AGENDA ITEM REPORT" DATED FEBRUARY 10, 2014

City of Culver City, California
Agenda Item Report

Meeting Date: 02/10/14	Item Number: A-2
CITY COUNCIL AGENDA ITEM: (1) Adoption of a Resolution Transmitting to the County of Los Angeles the Official City Response to the December 2013 Initial Study/Mitigated Negative Declaration for the Proposed Stoneview Nature Center Project Located at 5950 Stoneview Drive and (2) Approval of a Memorandum of Understanding Between the City of Culver City and the County of Los Angeles Department of Parks and Recreation for the Stoneview Nature Center Operation.	
Contact Person/Dept.: Charles D. Herbertson, Public Works Dept. and Susan Yun, Planning Division	Phone Number: (310) 253-5630 and (310) 253-5755
Fiscal Impact: Yes [x] No []	General Fund: Yes [x] No []
Public Hearing: [] Action Item: [x]	Attachments: [x]
Commission Action Required: Yes [ ] No [x]	Date: N/A
Public Notification: On 01/23/14 a public notice was mailed to property owners and occupants within the Blair Hills Neighborhood in Culver City; Meetings and Agendas – City Council (02/04/14).	
Department Approval: Charles D. Herbertson (02/04/14)	City Attorney Approval: Carol Schwab (by H. Baker) (02/04/14)
Fiscal Impact Review : Jeff Muir (02/04/14)	City Manager Approval: John Nachbar (02/04/14)

RECOMMENDATION:

Staff recommends the City Council (1) adopt a Resolution transmitting to the County of Los Angeles the official City response to the December 2013 Initial Study/Mitigated Negative Declaration for the proposed Stoneview Nature Center Project located at 5950 Stoneview Drive and (2) approve the Memorandum of Understanding Between the City of Culver City and County of Los Angeles Department of Parks and Recreation for the Stoneview Nature Center Operation.

BACKGROUND:

The County of Los Angeles (the "County") has prepared an Initial Study/Mitigated Negative Declaration, dated December 2013 ("December 2013 MND"), for the Stoneview Nature Center project (the "Project" or "Nature Center"). On December 23, 2013, the County released for public review the December 2013 MND consisting of the environmental review of and mitigation measures for the Project. The public comments to the December 2013 MND are due to the County on February 20, 2014.

A Draft Initial Study/Mitigated Negative Declaration was previously prepared by the County for the proposed Project in June 2013 ("June 2013 MND"), and circulated for public review and comment for 60 days. The City Council considered Action Item A-3 on August 12, 2013, which presented staff's recommended comments. At that time, after considering the staff report and public testimony, the City Council adopted Resolution No. 2013-R057 transmitting to the County the City's official response to the June 2013 MND. The City's primary concerns were traffic, parking, and other impacts to the neighborhood should the Nature Center be overwhelmingly successful, similar to the Baldwin Hills Scenic Overlook. The City expressed issues specifically with increased traffic and spillover parking onto adjacent neighborhood streets should the Project site be unable to accommodate all of the parking onsite for users of the Nature Center and the proposed regional Park to Playa Trail, which connects to the Nature Center.

Since the City Council meeting of August 12, 2013, City staff and County staff have been working on a Memorandum of Understanding ("MOU") to further resolve the issues expressed in the City's comments to the June 2013 MND. The MOU addresses, for the most part, operational issues that were not addressed in the June 2013 MND. The MOU is also presented to the City Council tonight for review and recommended approval (Attachment No. 2).

The County prepared the December 2013 MND to address the public comments received on the June 2013 MND, and re-circulated the December 2013 MND for a second 60-day comment period. The December 2013 MND supersedes and replaces the June 2013 MND.

Below is a summary of revisions to December 2013 MND which are based on comments received from the public during the initial review period for the June 2013 MND. The revised document changes include, but are not limited to, the following:

- The rationale for the selection of the County as the Lead Agency for the environmental review of the Project was added, and a description of the land use consultation process on Culver City General Plan consistency for the County project was included.
- The Project description was clarified and detailed for construction and operation activities at the Nature Center.
- The baseline year for impact analysis was changed from 2010, when the facility was occupied by the Ohr Eliyahu Academy (school), to 2013, when the facility was vacant.
- A traffic study and parking analysis for the onsite and off-street planned parking capacity was completed.
- Discussion of the Park to Playa separate trail project was expanded.

- Culver City thresholds of significance for traffic and noise were clarified and used to analyze the County project.
- An acknowledgment was added indicating that future exploration and oil field development may occur within the adjacent Inglewood Oil Field south and southeast of the Stoneview Nature Center.
- A discussion was added to address potential hazards to the oil field from potential cigarette smoking and vandals during construction and operations at the Stoneview Nature Center.
- A discussion was added regarding: (1) stormwater runoff quantity and quality that may result from proposed construction and operations at the Stoneview Nature Center, and (2) a buried gasoline pipeline that traverses the property.
- The geotechnical report and revised traffic study were included as appendices.
- Other clarifying language was added throughout the document.

The Project site is situated within the Blair Hills Neighborhood of Culver City and is located on the south side of Stoneview Drive, near Wrightcrest Drive and La Cienega Boulevard. Although the Project site is within the boundaries of the City, the County has determined they are the approving body on the Project, as well as the “Lead Agency” for purposes of conducting the environmental review for this Project under the California Environmental Quality Act (“CEQA”). The County Parks and Recreation Department will be operating and maintaining the Project. The Project site is currently owned by the Baldwin Hills Regional Conservation Authority (BHRCA) which, according to the County, plans to transfer the property to the County in the near future.

Culver City received the December 2013 MND on Monday, December 30, 2013, and immediately distributed it to City Departments for review. The purpose of tonight’s meeting is to consider staff’s recommended comments on the December 2013 MND and the proposed MOU, receive public comment, and then accept or modify these comments for transmittal to the County.

DISCUSSION:

Project Description

The Project site consists of five-acres located at 5950 Stoneview Drive in the City of Culver City, adjacent to the Kenneth Hahn State Recreation Area. The Project site was formerly operated as an elementary school (Ohr Eliyahu Academy) from 1995 to 2010, and was acquired by the Baldwin Hills Regional Conservation Authority (BHRCA) in 2011. The proposed Project includes demolition of the existing structures and the construction of a 4,000 square foot, one-story building with a multi-purpose room, staff office, restrooms, and a terrace with an observation area. A trail would connect the one-story building to various outdoor elements including an interpretive signage area, a botanical garden, nature grove, yoga deck, native garden area, demonstration/community garden, seating area, passive meadow, and an exercise area. Access to the Project is proposed from Stoneview Drive. A total of 61 parking spaces on a surface parking lot will be provided with a gate that separates a small 16-space parking area from a larger 45-space parking area.

Adequacy of the Initial Study/Mitigated Negative Declaration

A City staff team consisting of the Planning Division, the Public Works, Fire and Police Departments, and the City Attorney's Office evaluated and prepared proposed comments on the adequacy of the December 2013 MND. Staff's proposed detailed comments are set forth in Exhibit A of the proposed Resolution (Attachment No. 1).

The following is a brief summary of the major issues and concerns with the MND, which are set forth in more detail in Exhibit A of the proposed Resolution:

1. **<u>Traffic/Parking/Access:</u>**
    - The December 2013 MND should include analysis and discussion of alternative routes of access to the proposed park that do not rely on local Culver City residential streets.
    - The proposed before and after traffic monitoring program should be expanded to include additional residential streets in the Blair Hills community that potentially could be impacted by the Project.
    - If the aforementioned monitoring program shows an increase in vehicle volume of over 120 cars on any residential street, additional measures should be taken to reduce the number of cars and/or mitigate the impact from the additional traffic.

2. **<u>Potential Impacts During Construction:</u>**
    - The December 2013 MND does not indicate any staging plans or routes that trucks will take during construction. The December 2013 MND should include a mitigation that requires all parking related to construction activities to occur on the project site.
    - The County should provide the City with the funds required to make the necessary repairs for any wear or tear on City streets as a result of Project construction.
    - There is insufficient information as to whether construction impacts to the area in the northwest corner of Project site that has been designated as a landslide hazard zone have been addressed.

3. **Other Areas of Concern:**
   - Inadequate estimation of the number of daily visitors to the Project site.
   - Incomplete information regarding the abutting parcels that may be owned by BHRCA.
   - Lighting impacts are not sufficiently described or addressed.
   - Insufficient information regarding landscaping proposed for the Project.
   - Project site soil should be tested for any contamination by past oil drilling activities. It is unclear whether a Phase I or Phase II environmental study was performed.
   - The Geotechnical report included in the study is inconclusive regarding the location of fault lines in the Project area and does not address the impact of irrigation on the poorly compacted fill over the Project site and related mitigations.
   - The City should have an opportunity to review drainage of the Project site since the site drains to City streets. A plan showing the existing and proposed contours needs to be submitted to the City for review during the design phase of the project.

Memorandum of Understanding

Many of the City's concerns relating to the operation of the park have been addressed in the MOU that was developed jointly by the City and the County. Among other things the MOU does the following:

- Allows for review of certain project design documents.
- Limits construction hours.
- Requires construction related vehicles to park on the construction site.
- Clarifies the operation of the County-run shuttle service to the park.
- Prohibits direction signage to the park on major boulevards.
- Provides for funding for traffic mitigation, if needed.
- Establishes a traffic monitoring program for the neighborhood surrounding the park.
- Provides for additional free parking for Park to Playa trail users in Kenneth Hahn Park.
- Provides for quarterly community meetings to discuss the impacts of park operation on the surrounding community.
- Provides for monitoring of parking impacts for larger events held at the park.
- Addresses the limitations on the number of larger events in the event that nuisance issues develop.
- Incorporates all of the mitigation measures from the December 2013 MND.

FISCAL ANALYSIS:

The December MND is not specific enough to estimate the potential fiscal impacts to the City from the Project. However, unmitigated and significant impacts from the Project could result in significant costs to the City and its residents in the future. The types of fiscal impacts that the City can expect if the Project is implemented include but are not limited to: increased street infrastructure maintenance, increased demand for emergency, code enforcement and other City staff services due to Project operations.

ATTACHMENTS:

1. Proposed Resolution, including Exhibit A containing detailed comments on the December 2013 MND
2. Proposed Stoneview Nature Center Memorandum of Understanding between the City of Culver City and County of Los Angeles

MOTION:

That the City Council:

1. Adopt a Resolution transmitting the official City response to the December 2013 Initial Study/Mitigated Negative Declaration for the proposed Stoneview Nature Center Project located at 5950 Stoneview Drive; and,
2. Approve the Memorandum of Understanding between the City of Culver City and County of Los Angeles Department of Parks and Recreation for the Stoneview Nature Center Operation; and,
3. Authorize the City Attorney to review/prepare the necessary documents; and,
4. Authorize the City Manager to execute such documents on behalf of the City.

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RESPONSE TO COMMENTS

REVISED INITIAL STUDY/MITIGATED, NEGATIVE DECLARATION, STONEVIEW NATURE CENTER dated December 2013

Submitted to Los Angeles County Department of Public Works

Attention: Alioune Dioum, Project Manager

SUMMARY OF COMMENTS	
Designation	**Description**

Comments provided by Culver City in "Agenda Item Report" dated February 10, 2014

A-1	Comment	Traffic/Parking/Access: • The December 2013 MND should include analysis and discussion of alternative routes of access to the proposed park that do not rely on local Culver City residential streets. • The proposed before and after traffic monitoring program should be expanded to include additional residential streets in the Blair Hills community that potentially could be impacted by the Project. • If the aforementioned monitoring program shows an increase in vehicle volume of over 120 cars on any residential street, additional measures should be taken to reduce the number of cars and/or mitigate the impact from the additional traffic.
	Response	Traffic and parking issues that may arise during operation of the Stoneview Nature Center also are addressed in a Memorandum of Understanding between the City of Culver City and the County of Los Angeles. Based on the analysis provided in Section 4.16 of the IS/MND, traffic access to the Stoneview Nature Center is from Stoneview Drive. Impacts associated with this access are less than significant. Analysis of alternative access routes are not required.

A-2	Comment	Potential Impacts during Construction • The December 2013 MND does not indicate any staging plans or routes that trucks will take during construction. The December 2013 MND should include a mitigation that requires all parking related to construction activities to occur on the project site.
	Response	The traffic study determined that there would be a less-than-significant impact on level of service (LOS) on local streets. Therefore, the impacts from construction traffic on loss of service (LOS) would also be less than significant. In addition, the revised IS/MND states that "Construction contracts will contain a stipulation that construction vehicles must be parked in a way to avoid obstruction of emergency access." Traffic and parking issues that may arise during construction and operation of the Stoneview Nature Center also are addressed in a Memorandum of Understanding between the City of Culver City and the County of Los Angeles.

A-3	Comment	• The County should provide the City with the funds required to make the necessary repairs for any wear or tear on City streets as a result of Project construction.
	Response	Traffic, parking and funding issues that may arise during operation of the Stoneview Nature Center also are addressed in a Memorandum of Understanding between the City of Culver City and the County of Los Angeles.

A-4	Comment	• There is insufficient information as to whether construction impacts to the area in the northwest corner of Project site that has been designated as a landslide hazard zone have been addressed.
	Response	Pile driving, which would induce the highest ground vibrations during construction for this project, may occur at least 300 feet east of the landslide hazard zone. Based on vibration data provided in Appendix F, Peak Particle Velocity (PPV) during pile driving is projected to be approximately 0.013 inches per second. For comparison, the threshold PPV for "sensitive structures" is 0.12 inches per second. The potentially induced PPV at the landslide hazard zone is an order of magnitude below this threshold. Based on the vibration data, the most likely cause of future landslides in this area is from natural causes. Induced landslides from construction is considered negligible.

A-5	Comment	Other Areas of Concern: • Inadequate estimation of the number of daily visitors to the Project site.
	Response	The method for estimating the number of daily visitors was based upon visitor data for similar County facilities. These data are provided in Appendix A of the Revised December2013 IS/MND.

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RESPONSE TO COMMENTS
REVISED INITIAL STUDY/MITIGATED, NEGATIVE DECLARATION, STONEVIEW NATURE CENTER dated December 2013
Submitted to Los Angeles County Department of Public Works
Attention: Alioune Dioum, Project Manager

SUMMARY OF COMMENTS	
Designation	**Description**

Comments provided by Culver City in "Agenda Item Report" dated February 10, 2014

A-6	Comment	• Incomplete information regarding the abutting parcels that may be owned by BHRCA.
	Response	Figure 2.1-1 has been revised to include parcel ownership on parcels contiguous with the Stoneview Nature Center.

A-7	Comment	• Lighting impacts are not sufficiently described or addressed.
	Response	Section 2.3.3 of the December 2013 IS/MND says, "Security lighting will be installed throughout the parking lot and at the exterior of the Stoneview Nature Center Building. The security lighting will be shielded and directed downward to avoid glare and excessive lighting off-site, and to protect the night sky. The light pole height will be 20 feet maximum. The parking lot lighting will be turned off after operating hours or after special events. Low level interior lights could be left on after hours for police patrols." In addition, the impact analysis in Section 4.1(d) says: "The proposed project would introduce new lighting sources through the inclusion of ceiling-to-floor glass windows and doors and building and security lighting. It is not anticipated that these features would create significant glare since the glass windows and doors would be treated with anti-reflective coating and building and security lighting would be shielded and directed downward. When the center is closed, only security lighting would be used. Therefore, the proposed project would not create substantial light or glare and would result in a less than significant impact on day and nighttime views."

A-8	Comment	• Insufficient information regarding landscaping proposed for the Project.
	Response	Section 2.3.2 Landscape Elements provides details regarding plants and seeding mix, and the type of gardens planned, and is of sufficient detail.

A-9	Comment	• Project site soil should be tested for any contamination by past oil drilling activities. It is unclear whether a Phase I or Phase II environmental study was performed.
	Response	Soils at the project site were not sampled and analyzed for potential contaminants from past drilling activities (Phase II) because this contamination, if any, would be buried beneath approximately 17 to 23 feet of fill, and would not be disturbed by construction activities. The Phase I Environmental Site Assessment is cited in Section 4.8.b, and in included in the References (Section 5.0) as: *UltraSystems. 2009. Phase I Environmental Site Assessment, Ohr Eliyahu Academy, 5950 Stoneview Drive, Culver City, CA 90232 (APN: 4204-014-024, APN: 4204-014-025, APN: 4204-014-026): UltraSystems Environmental Inc., Irvine, CA. October.*

A-10	Comment	• The Geotechnical report included in the study is inconclusive regarding the location of fault lines in the Project area and does not address the impact of irrigation on the poorly compacted fill over the Project site and related mitigations.
	Response	Known faults identified from the geotechnical investigation (Appendix C) are shown on Figure 4.6-1. Irrigation water would be expected to infiltrate into the subsurface naturally because fill soils are composed of silty sand, clayey sands, and poorly graded sands. Except where soils will be re-compacted, or piles will be used beneath the Stoneview Nature Center building, differential settling may occur within the site because fill soils were not compacted. No mitigation measures are required because geology and soils impacts will be less than significant in open areas.

A-11	Comment	• The City should have an opportunity to review drainage of the Project site since the site drains to City streets. A plan showing the existing and proposed contours needs to be submitted to the City for review during the design phase of the project.
	Response	A grading plan will be checked and approved by Los Angeles County Building Department, as required. The Memorandum of Understanding between the County and the City of Culver City contains provisions for City review of project scoping documents during the design process.

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RESPONSE TO COMMENTS

REVISED INITIAL STUDY/MITIGATED, NEGATIVE DECLARATION, STONEVIEW NATURE CENTER dated December 2013

Submitted to Los Angeles County Department of Public Works

Attention: Alioune Dioum, Project Manager

SUMMARY OF COMMENTS	
Designation	**Description**

Comments provided by Culver City in "Agenda Item Report" dated February 10, 2014

A-12	Comment	Many of the City's concerns relating to the operation of the park have been addressed in the Memorandum of Understanding that was developed jointly by the City and the County.
	Response	The County acknowledges that the comment indicates that the Memorandum of Understanding (MOU) satisfactorily addresses many fo the City concerns, and that the MOU has been executed by the City. These issues include the following: review of certain project design document, limits on construction hours, requires construction related vehicles to park on the construction site, clarifies the operation of the County-run shuttle service to the park, prohibits direction signage to the park on major boulevard, provides for funding for traffic mitigation, if needed, establishes a traffic monitoring program for the neighborhood surrounding the park, provides for additional free parking for Park to Playa trail users in Kenneth Hahn Park, provides for quarterly community meetings to discuss the impacts of park operation on the surrounding community, provides for monitoring of parking impacts for larger events held at the park, addresses the limitations on the number of larger events in the event that nuisance issues develop, and incorporates all of the mitigation measures from the Revised December 2013 IS/MND.

COMMENT SET B

COMMENTS PROVIDED IN EXHIBIT A
CITY OF CULVER CITY RESOLUTION NO. 2014-R078
DATED FEBRUARY 10, 2014

RESOLUTION NO. 2014-R 078

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CULVER CITY, CALIFORNIA, TRANSMITTING TO THE COUNTY OF LOS ANGELES, THE OFFICIAL CITY RESPONSE TO THE DECEMBER 2013 INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION FOR THE PROPOSED STONEVIEW NATURE CENTER PROJECT LOCATED AT 5950 STONEVIEW DRIVE.

WHEREAS, the County of Los Angeles ("County") is proposing the Stoneview Nature Center Project located at 5950 Stoneview Drive (the "Project"), within the boundaries of the City of Culver City; and,

WHEREAS, the Project consists of the construction of a 4,000 square foot, one-story building with a multi-purpose room, staff office, restrooms, and terrace with an observation area on a five-acre property. A trail would connect the one-story building to various landscape elements including interpretive signage, a botanical garden, nature grove, yoga deck, native garden area, demonstration/community garden, seating area, passive meadow, and an exercise area. Access to the Project is proposed off of Stoneview Drive. A total of 61 parking spaces on a surface parking lot will be provided with a gate that separates a small 16-space parking area from a larger 45-space parking area; and,

WHEREAS, the County prepared an Initial Study/Mitigated Negative Declaration dated June 2013 to analyze potential environmental impacts caused by the proposed Project, which was released for public review and comment on June 24, 2013 ("June 2013 MND"); and,

WHEREAS, on August 12, 2013, after conducting a duly noticed public hearing on the subject matter including consideration of all testimony presented, the City

Council adopted Resolution No. 2013-R057 transmitting to the County of Los Angeles the Official City Response to the June 2013 MND; and,

WHEREAS, the County has revised and recirculated the June 2013 MND dated December 2013 to analyze potential environmental impacts caused by the proposed Project, which was released for public review and comment on December 23, 2013 ("December 2013 MND"); and,

WHEREAS, a City staff team, consisting of various City Departments was established to evaluate and comment on the adequacy of the December 2013 MND in addressing potential impacts to Culver City; and,

WHEREAS, the City Council of the City of Culver City, accepted public comments and considered the MND at a public meeting on February 10, 2014.

NOW, THEREFORE, the City Council of the City of Culver City, California, DOES HEREBY RESOLVE as follows:

1. Establishes that this Resolution, including attached Exhibit A, constitutes the City of Culver City's official comments on the December 2013 MND that was prepared for the Project.

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2. Directs and authorizes staff to transmit the City's comments on the December 2013 MND to the County.

APPROVED and ADOPTED this 10th day of February 2014.

JEFFREY COOPER, MAYOR
City of Culver City, California

ATTEST:

Martin R. Cole
MARTIN COLE, City Clerk

A14-00104

APPROVED AS TO FORM:

for
CAROL A. SCHWAB, City Attorney

2014-R078

EXHIBIT A - CITY OF CULVER CITY RESOLUTION NO. 2014- R078
Stoneview Nature Center Project
Draft Revised Initial Study/Mitigated Negative Declaration Comments
(5950 Stoneview Drive, Culver City, California)
February 10, 2014

TRAFFIC /PARKING

1. Alternative Access to the Park: The proposed project, located at 5950 Stoneview Drive in the City of Culver City, includes demolition of the existing structures and the construction of a 4,000-square-foot one-story building that will include a multi-purpose room, staff office, restrooms, and a terrace and observation area (the "Project"). The traffic study and Initial Study/Mitigated Negative Declaration dated December 2013 ("December 2013 MND") for the Project should analyze alternate routes via La Cienega Boulevard on/off ramps and the bridge to Kenneth Hahn State Recreational Area for construction vehicles and for permanent access to and from the Project site. It is noted that the alignment of the future trail system crosses the bridge to the Kenneth Hahn State Recreational Area and follows an existing dirt road that connects to the south side of the Project site. Use of this route would avoid Project generated traffic from traversing and potentially impacting several residential streets in the Blair Hills community. The Blair Hills community should have an opportunity to learn the pros and cons of having alternative access from the south side of the Project site and weigh in on the alternatives. This is a carryover comment from the City's comments on the original Initial Study/Mitigated Negative Declaration dated June 2013 ("June 2013 MND").

2. Design Review by Culver City: Because the project is located in Culver City and will potentially have impacts on nearby Culver City streets and residents, Culver City should be provided an opportunity to review and comment on scoping documents during the design process as well as plans relating to the entrance to the park from Stoneview Drive, outdoor lighting, fencing and landscaping around the perimeter of the property.

3. Parking Lot Design/Configuration: Due to a lack of information or explanation in the December 2013 MND, it can only be assumed that the 16 space parking area is intended for normal park use and the 45 space parking area is planned for use primarily for special events or overflow parking at the Project site. This information as to how the parking lot will be operated is critical to be included in the December 2013 MND as there will be potentially significant parking impacts and the public needs to know how these impacts will be minimized or eliminated. Separating the parking lots with a gate may further impact the situation rather than be beneficial. The proposed use and reason

for the two separate parking areas as opposed to one bigger parking area is not explained or analyzed at all in the December 2013 MND. This is a carryover comment from the City's comments on the June 2013 MND.

4. Additional Parking for Park to Playa Trail Users: In order to minimize the potential impact on the parking lot at the Center, the County should provide additional free parking at Kenneth Hahn Park designated for users of the Park to Playa trail.

5. Analysis of Additional Street Segments: Table 4.16-11 on Page 4-90, shows that the project significantly impacts Lenawee Avenue and Stoneview Drive. The following additional street segments should be analyzed for potential impact: Wrightcrest Drive between Lenawee Avenue and La Cienega Boulevard, Perham Drive between Ivy Way and Wrightcrest Drive, and Stoneview Drive between Wrightcrest Drive and the Project site.

6. T-MM-1 on Page 4-89 should be modified as follows:
   In order to mitigate potential residential street impact to a less than significant level, the County will establish a traffic monitoring program for the residential streets in the area, including but not limited to, Stoneview Drive between Lenawee Avenue and the project site, Lenawee Avenue between Wrightcrest Drive and Stoneview Drive, Wrightcrest Drive between Lenawee Avenue and La Cienega Boulevard, Perham Drive between Ivy Way and Wrightcrest Drive, and Stoneview Drive between Wrightcrest Drive and the project site "before" and "after" the Stoneview Nature Center is operating. The program will measure traffic volumes, speed, directions, and vehicle type for one week before construction of the Nature Center and then for one week approximately three to four months after the Nature Center is in full operation.

7. T-MM-2 states should be modified as follows:
   If the monitoring program shows an increase of 120 vehicles per day or more on any of the residential streets in the area is observed on Stoneview Drive or Lenawee Avenue, the County will fund and work with the City of Culver City to devise and implement measures to reduce the impacts of increased traffic. These measures may include traffic calming measures from the City's Neighborhood Traffic Calming Program such as, but not limited to, additional signage, speed feedback signs, speed humps or speed tables, restrictions to the number and size of allowed park activities, or restrictions to or closure of access from the Stoneview Nature Center to the Park to Playa trail. The traffic calming measures will be funded within the traffic calming measures fund allocated in the Memorandum of Understanding related to the Stoneview Nature Center project between Los Angeles County and the City of Culver City. Additional monitoring will be required to test the effectiveness of the

mitigation measures. If these measures do not reduce the project's generated traffic to less than 120 vehicles per day, the City may require the County to take additional measures to mitigate the impact of the project.

8. Vehicle Occupancy: The Stoneview Nature Center Traffic and Parking Study indicated the average vehicle occupancy rate for people traveling to the Park is 2 persons per vehicle. The source is based on the 2009 National Household Travel Survey information published by the U.S. Department of Transportation, the average vehicle occupancy for cars was 1.59 persons per vehicle, vans was 2.35 persons per vehicle, and sport utility vehicles was 1.92 persons per vehicle. The average of these occupancy values 1.95 or 2 persons (rounded) per vehicle. Recreational land uses like the Nature Center are likely to be attended by groups of two or more persons arriving in a single vehicle. The vehicle occupancy information is general and not specifically pertinent to vehicle occupancy for people traveling to parks. The average vehicle occupancy should be based on data from persons traveling to similar parks. Short of that, the average occupancy used for the traffic study should be 1.59, the rate for passenger cars.

9. Directional Signage: There should be no directional signage to the Center from nearby thoroughfares and intersections including but not limited to Jefferson Boulevard and La Cienega Boulevard.

CONSTRUCTION IMPACTS

10. Potential Impacts During Construction: The December 2013 MND indicates the demolition of the existing facility is expected to take two to three months and the construction is anticipated to take 13-15 months. The traffic study and December 2013 MND must identify potential impacts on traffic during construction and potential mitigation measures. The December 2013 MND does not indicate any staging plans or routes that trucks will take during construction. The likely route will be through Wrightcrest Drive, Lenawee Avenue and Stoneview Drive which could potentially have significant parking and traffic impacts to the residents if not mitigated. The traffic study and December 2013 MND should include a construction management plan, including the haul route, the number of construction vehicles and where construction workers will park and the construction staging location. The traffic study and December 2013 MND must indicate that the County shall be responsible to repair any damage to streets in Culver City caused by construction vehicles or activities. Culver City will conduct a before and after evaluation of the streets to determine the level of impact to the streets caused

by heavy construction traffic. This is a carryover comment from the City's comments on the June 2013 MND.

11. Construction Hours: To minimize disruption to the nearby residential area, construction of the Center should only take place between 8:00 a.m. and 5:00 p.m. Monday through Friday. All construction related vehicles should be parked on the Center construction site (not on nearby residential streets).

12. Geotechnical Report: Also, it is unclear whether construction activities, which may generate heavy vibrations, will disturb the area in the northwest corner of the Project site that has been designated as a landslide hazard zone. A detailed discussion of this should be included in the December 2013 MND and in a geotechnical report. The geotechnical report should be appended to the December 2013 MND. This is a carryover comment from the City's comments on the June 2013 MND.

OTHER AREAS OF CONCERN

Park Operations/Nuisance Concerns:

13. If noise complaints or other nuisance issues related to events held at the park become a problem, steps to alleviate the problems should be taken including: additional controls on the type of events allowed, restrictions on the time of day that certain events can be scheduled, a reduction in the number of events and reducing the size of future events in terms of number of people allowed to attend.

Table 2-1: Project Number of Daily Visitors:

14. The December 2013 MND fails to estimate the number of visitors to the Project site during peak hours.

Figure 2-1: Project Location Map:

15. Based on the current Assessor's Map, Baldwin Hills Regional Conservation Authority ("BHRCA") owns a 1.0 acre parcel that is contiguous to the east side of the Project site as well as other parcels abutting the Project site. Any BHRCA owned property surrounding the Project site should be identified in the December 2013 MND. Knowing the locations of these properties could influence the responses concerning the mitigations to the proposed Project. This is a carryover comment from the City's comments on the June 2013 MND.

Section 4.1 Aesthetics:

16. *Lighting Impacts:* There is no mention of the type, height, and intensity of outdoor or exterior lighting proposed as part of this Project that might cause glare in the evening. There needs to be assurances in the December 2013 MND that any lighting or glare from the lighting shall be shielded sufficiently so as to prevent impacts to the residents in this neighborhood. The City should be given an opportunity to review a lighting plan in order to ensure that its residents are adequately protected from Project lighting impacts.

17. *Landscaping:* It is unclear in the December 2013 MND how there will be a "buffer" area between residences and the Project site. What types of trees are proposed? How tall will they be at planting? How long will they take to mature? The City should be given an opportunity to review a landscaping plan in order to ensure that its residents are adequately protected from Project visual and noise impacts.

Section 4.6 Geology and Soils:

18. The Geotechnical Investigation Report states the scope of work for this report did not include performing a geologic-seismic hazards evaluation of the subject site. However, this firm prepared a fault rupture hazard investigation at this same site for the Ohr Eliyahu Academy in 2010. Fault trenches were dug 5 to 16 feet deep and faults were encountered that were deemed to be associated with the active Newport-Inglewood fault zone. Furthermore, The Alquist-Priolo map for this area (Beverly Hills Quadrangle) shows a fault considered to have been active during Holocene time and to have a relatively high potential for surface rupture and which has been accurately mapped. These fault lines should be shown and identified in a Geotechnical Investigation Report and on the Conceptual Site Plan. As such, an additional geotechnical report should be prepared during Project design that addresses any mitigation factors that may need to be implemented during construction of the Project, and after completion of the Project. The final recommendations on the location and structural foundation design of the proposed building may be required to be revised based on the locations of these faults. In addition a major concern in constructing buildings and landscape areas within an earthquake fault zone is the future settling of the ground due to increase loads and watering within the fault zone area. This should also be addressed in the geotechnical report.

19. The Geotechnical investigation Report has plotted the 50 foot building setback lines on Exhibit 2 of the report. However there is not discussion as to how the limits of these lines were determined. Why does the easterly setback line have such a prominent angle break at its northerly end?

20. A 6-inch Chevron petroleum pipeline has been identified that traverses the Project site having only 2 feet of cover. Culver City records indicate that this line contains gasoline which is highly flammable and extremely volatile if improperly disturbed. The Geotechnical Investigation Report should prepare an in-depth analysis of how this pipeline should be protected during construction and recommend final design parameters to insure the pipeline will be able to withstand the loading of future vehicular traffic.

21. There is an existing steep slope along the Project site's westerly boundary that has partially failed in the past. The Geotechnical investigation Report should recommend remedial measures for this slope and any other unstable slopes on the site.

<u>Section 4.8 Hazards and Hazardous Materials:</u>

22. An environmental investigation and report appears to have been completed in 2010 but because it was not provided as part the December 2013 MND, the City was not able to review the study and it is not known if the report adequately addressed potential soil and groundwater contamination on the Project site and any mitigation that may be necessary. Also it is unclear whether a Phase I or Phase II environmental study was performed.

<u>Section 4.9 Hydrology and Water Quality:</u>

23. A conceptual hydrology study and grading plan should be prepared to determine the proposed drainage patterns and the amount of storm runoff generated from the 25-year frequency rainfall that will be discharged from the Project site and possibly impact Culver City streets.

24. Both the SWPPP and SUSMP should be reviewed by Culver City staff and the City's recommendations should be incorporated into these plans prior to approval by Los Angeles County. The City of Culver City will be responsible for accepting and accommodating any and all storm and non-storm water during construction and post construction and therefore should have the opportunity to review and make corrections to these plans prior to final approval.

25. Since the site drains to Culver City streets, the City should be given an opportunity to review the grading plan for the Project during the Project design stage and prior to the on-set of construction.

RESPONSE TO COMMENTS

REVISED INITIAL STUDY/MITIGATED, NEGATIVE DECLARATION, STONEVIEW NATURE CENTER dated December 2013

Submitted to Los Angeles County Department of Public Works

Attention: Alioune Dioum, Project Manager

SUMMARY OF COMMENTS	
Designation	**Description**

Comments provided in Exhibit A - City of Culver City Resolution No. 2014-R078 dated February 10, 2014

B-1A	Comment	Alternative Access to the Park: The traffic study and Initial Study/Mitigated Negative Declaration dated December 2013 ("December 2013 MND") for the Project should analyze alternate routes via La Cienega Boulevard on/off ramps and the bridge to Kenneth Hahn State Recreational Area for construction vehicles and for permanent access to and from the Project site.
	Response	The short-term noise analysis included the intersection of Wrightcrest Drive and Lenawee Avenue, one block west of South La Cienega Boulevard. At least some of the traffic through this intersection may be assumed to come from La Cienega Boulevard via a southbound offramp. The long-term noise analysis included the segment of Wrightcrest Drive between Lenawee Avenue and South La Cienega Boulevard. Because ramps to and from La Cienega Boulevard are at the eastern end of Wrightcrest Drive, it is reasonable to assume that this road segment could be used for construction traffic and for permanent access to and from the Project site. Based on the analysis provided in Section 4.16 of the IS/MND, traffic access to the Stoneview Nature Center is from Stoneview Drive. Impacts associated with this access are less than significant. Analysis of alternative access routes are not required.)

B-1B	Comment	It is noted that the alignment of the future trail system crosses the bridge to the Kenneth Hahn State Recreational Area and follows an existing dirt road that connects to the south side of the Project site. Use of this route would avoid Project generated traffic from traversing and potentially impacting several residential streets in the Blair Hills community. The Blair Hills community should have an opportunity to learn the pros and cons of having alternative access from the south side of the Project site and weigh in on the alternatives. This is a carryover comment from the City's comments on the original Initial Study/Mitigated Negative Declaration dated June 2013 ("June 2013 MND").
	Response	Access to the site is via Stoneview Drive. The traffic study determined that there would be a less-than-significant impact on level of service (LOS) on local streets. Alternative access routes are not needed for an environmental review under CEQA. Traffic and parking issues that may arise during construction and operation of the Stoneview nature Center also are addressed in a Memorandum of Understanding between the City of Culver City and the County of Los Angeles.

B-2	Comment	Design Review by Culver City: Because the project is located in Culver City and will potentially have impacts on nearby Culver City streets and residents, Culver City should be provided an opportunity to review and comment on scoping documents during the design process as well as plans relating to the entrance to the park from Stoneview Drive, outdoor lighting, fencing and landscaping around the perimeter of the property.
	Response	As noted in the Memorandum of Understanding between the County of Los Angeles and the City of Culver city, the City will be provided the opportunity to review and comment on scoping documents during the design process of the Center. The Memorandum of Understanding provides a mechanism for the County to address other City and community concerns regarding operation of the Stoneview Nature Center.

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B-3	Comment	Parking Lot Design/Configuration: Due to a lack of information or explanation in the December 2013 MND, it can only be assumed that the 16 space parking area is intended for normal park use and the 45 space parking area is planned for use primarily for special events or overflow parking at the Project site. This information as to how the parking lot will be operated is critical to be included in the December 2013 MND as there will be potentially significant parking impacts and the public needs to know how these impacts will be minimized or eliminated. Separating the parking lots with a gate may further impact the situation rather than be beneficial. The proposed use and reason for the two separate parking areas as opposed to one bigger parking area is not explained or analyzed at all in the December 2013 MND. This is a carryover comment from the City's comments on the June 2013 MND.
	Response	Footnote "b" to Table 4.16-12 of the IS/MND states "Four parking spaces may be used by the Nature Center Staff; 57 would be available to the public." Furthermore, in the paragraph following that table is the statement, "A total of 61 spaces would be available, and up to four of these may be used by staff." The project traffic and parking study concluded that this breakdown of parking uses, as well as the total number of parking spaces, are adequate for the forecasted parking demand. Staff will be available to open the gate between parking areas to accommodate overflow parking, as needed.

B-4	Comment	Additional Parking for Park to Playa Trail Users: In order to minimize the potential impact on the parking lot at the Center, the County should provide additional free parking at Kenneth Hahn Park designated for users of the Park to Playa trail.
	Response	This parking requirement is addressed in the Memorandum of Understanding between the County of Los Angeles Department of Parks and Recreation and the City of Culver City.

B-5	Comment	Analysis of Additional Street Segments: Table 4.16-11 on Page 4-90, shows that the project significantly impacts Lenawee Avenue and Stoneview Drive. The following additional street segments should be analyzed for potential impact: Wrightcrest Drive between Lenawee Avenue and La Cienega Boulevard, Perham Drive between Ivy Way and Wrightcrest Drive, and Stoneview Drive between Wrightcrest Drive and the Project site.
	Response	The long-term noise analysis in the IS/MND has already included the segment of Wrightcrest Drive between Lenawee Avenue and South La Cienega Boulevard and Stoneview Drive between Lenawee Avenue and the project site as indicated in the traffic monitoring prescribed by mitigation measure T-MM-1. An Memorandum of Understanding between the City of Culver City and the County of Los Angeles include these two segments also.

B-6	Comment	T-MM-1 on Page 4-89 should be modified as follows: In order to mitigate potential residential street impact to a less than significant level, the County will establish a traffic monitoring program for the residential streets in the area, including but not limited to, Stoneview Drive between Lenawee Avenue and the project site, Lenawee Avenue between Wrightcrest Drive and Stoneview Drive, Wrightcrest Drive between Lenawee Avenue and La Cienega Boulevard, Perham Drive between Ivy Way and Wrightcrest Drive, and Stoneview Drive between Wrightcrest Drive and the project site "before" and "after" the Stoneview Nature Center is operating. The program will measure traffic volumes, speed, directions, and vehicle type for one week before construction of the Nature Center and then for one week approximately three to four months after the Nature Center is in full operation.
	Response	Traffic monitoring measures are addressed in the Memorandum of Understanding between the County of Los Angeles Department of Parks and Recreation and the City of Culver City and are reflected in T-MM-1.

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RESPONSE TO COMMENTS

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B-7	Comment	T-MM-2 states should be modified as follows: If the monitoring program shows an increase of 120 vehicles per day or more on any of the residential streets in the area is observed on Stoneview Drive or Lenawee Avenue, the County will fund and work with the City of Culver City to devise and implement measures to reduce the impacts of increased traffic. These measures may include traffic calming measures from the City's Neighborhood Traffic Calming Program such as, but not limited to, additional signage, speed feedback signs, speed humps or speed tables, restrictions to the number and size of allowed park activities, or restrictions to or closure of access from the Stoneview Nature Center to the Park to Playa trail. The traffic calming measures will be funded within the traffic calming measures fund allocated in the Memorandum of Understanding related to the Stoneview Nature Center project between Los Angeles County and the City of Culver City. Additional monitoring will be required to test the effectiveness of the mitigation measures. If these measures do not reduce the project's generated traffic to less than 120 vehicles per day, the City may require the County to take additional measures to mitigate the impact of the project.
	Response	Traffic monitoring measures are addressed in the Memorandum of Understanding between the County of Los Angeles Department of Parks and Recreation and the City of Culver City and in mitigating measure T-MM-2.

B-8	Comment	Vehicle Occupancy: The Stoneview Nature Center Traffic and Parking Study indicated the average vehicle occupancy rate for people traveling to the Park is 2 persons per vehicle. The source is based on the 2009 National Household Travel Survey information published by the U.S. Department of Transportation, the average vehicle occupancy for cars was 1.59 persons per vehicle, vans was 2.35 persons per vehicle, and sport utility vehicles was 1.92 persons per vehicle. The average of these occupancy values 1.95 or 2 persons (rounded) per vehicle. Recreational land uses like the Nature Center are likely to be attended by groups of two or more persons arriving in a single vehicle. The vehicle occupancy information is general and not specifically pertinent to vehicle occupancy for people traveling to parks. The average vehicle occupancy should be based on data from persons traveling to similar parks. Short of that, the average occupancy used for the traffic study should be 1.59, the rate for passenger cars.
	Response	Limiting the rate to that for passenger cars is no more reasonable than averaging the rates for the three vehicle types. The three-type average is a non-biased and reasonable approach.

B-9	Comment	Directional Signage: There should be no directional signage to the Center from nearby thoroughfares and intersections including but not limited to Jefferson Boulevard and La Cienega Boulevard.
	Response	The IS/MND states, "The Stoneview Nature Center parking lot should not be identified in any printed or electronic maps produced as part of the Park to Playa Trail project, and no signage installed as part of the Park to Playa Trail project should direct vehicles toward the Stoneview site." In addition, this provision is part of a Memorandum of Understanding between the County of Los Angeles Department of Parks and Recreation and the City of Culver City.

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B-10	Comment	Potential Impacts During Construction: The December 2013 MND indicates the demolition of the existing facility is expected to take two to three months and the construction is anticipated to take 13-15 months. The traffic study and December 2013 MND must identify potential impacts on traffic during construction and potential mitigation measures. The December 2013 MND does not indicate any staging plans or routes that trucks will take during construction. The likely route will be through Wrightcrest Drive, Lenawee Avenue and Stoneview Drive which could potentially have significant parking and traffic impacts to the residents if not mitigated. The traffic study and December 2013 MND should include a construction management plan, including the haul route, the number of construction vehicles and where construction workers will park and the construction staging location. The traffic study and December 2013 MND must indicate that the County shall be responsible to repair any damage to streets in Culver City caused by construction vehicles or activities. Culver City will conduct a before and after evaluation of the streets to determine the level of impact to the streets caused by heavy construction traffic. This is a carryover comment from the City's comments on the June 2013 MND.
	Response	Construction-related traffic volumes will be far below those related to park operation. The traffic study determined that there would be a less-than-significant impact on level of service (LOS) on local streets. Therefore, the impacts from construction traffic on LOS would also be less than significant. In addition, the revised IS/MND states that "Construction contracts will contain a stipulation that construction vehicles must be parked in a way to avoid obstruction of emergency access." Other street-related issues are address in the Memorandum of Understanding between the City and County.

B-11	Comment	Construction Hours: To minimize disruption to the nearby residential area, construction of the Center should only take place between 8:00 a.m. and 5:00 p.m. Monday through Friday. All construction related vehicles should be parked on the Center construction site (not on nearby residential streets).
	Response	The Memorandum of Understanding between the City and County indicates that construction will occur only between 8 AM and 5 PM Monday through Friday. Mitigation measure N-MM-3 has been conformed to state that "construction of the project shall only take place between 8:00 a.m. and 5:00 p.m. Monday through Friday; no construction shall take place on weekends or holidays." In addition mitigation measure N-MM-4 has been added: "During construction, construction related vehicles shall be parked on the Project construction site, and shall not be parked on nearby residential streets."

B-12	Comment	Geotechnical Report: It is unclear whether construction activities, which may generate heavy vibrations, will disturb the area in the northwest corner of the Project site that has been designated as a landslide hazard zone. A detailed discussion of this should be included in the December 2013 MND and in a geotechnical report. The geotechnical report should be appended to the December 2013 MND. This is a carryover comment from the City's comments on the June 2013 MND.
	Response	Pile driving, which would induce the highest ground vibrations during construction for this project, may occur at least 300 feet east of the landslide hazard zone. Based on vibration data provided in Appendix F, Peak Particle Velocity (PPV) during pile driving is projected to be approximately 0.013 inches per second. For comparison, the threshold PPV for "sensitive structures" is 0.12 inches per second. The potentially induced PPV at the landslide hazard zone is an order of magnitude below this threshold. Based on the vibration data, the most likely cause of future landslides in this area is from natural causes. Induced landslides from construction is considered negligible. The Geotechnical Report is included in Appendix C.

RESPONSE TO COMMENTS

REVISED INITIAL STUDY/MITIGATED, NEGATIVE DECLARATION, STONEVIEW NATURE CENTER dated December 2013

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B-13	Comment	Park Operation/Nuisance Concerns: If noise complaints or other nuisance issues related to events held at the park become a problem, steps to alleviate the problems should be taken including: additional controls on the type of events allowed, restrictions on the time of day that certain events can be scheduled, a reduction in the number of events and reducing the size of future events in terms of number of people allowed to attend.
	Response	Provisions to alleviate noise complaints and other nuisance issues are incorporated into the park activities and operations plan described in the Memorandum of Understanding between the County of Los Angeles Department of Parks and Recreation and the City of Culver City.

B-14	Comment	Table 2-1: Project Number of Daily Visitors. The December 2013 MND fails to estimate the number of visitors to the Project site during peak hours.
	Response	As reported in Table 4.16-3 of the revised IS/MND, peak hour trips to the Nature Center are estimated to be 31 on weekdays and 68 on weekends. The traffic study assumed two persons per trip, so the number of visitors arriving and/or leaving during the weekday and weekend peak hour would be 62 and 136, respectively.

B-15	Comment	Figure 2-1: Project Location Map Based on the current Assessor's Map, Baldwin Hills Regional Conversation Authority ("BHRCA") owns a 1.0 acre parcel that is contiguous to the east side of the Project site as well as other parcels abutting the Project site. Any BHRCA owned property surrounding the Project site should be identified in the December 2013 MND. Knowing the locations of these properties could influence the responses concerning the mitigations to the proposed Project. This is a carryover comment from the City's comments on the June 2013 MND.
	Response	Figure 2.1-1 has been revised to include parcel ownership on parcels contiguous with the Stoneview Nature Center.

B-16	Comment	Lighting Impacts: There is no mention of the type, height, and intensity of outdoor or exterior lighting proposed as part of this Project that might cause glare in the evening. There needs to be assurances in the December 2013 MND that any lighting or glare from the lighting shall be shielded sufficiently so as to prevent impacts to the residents in this neighborhood. The City should be given an opportunity to review a lighting plan in order to ensure that its residents are adequately protected from Project lighting impacts.
	Response	Section 2.3.3 of the December 2013 IS/MND says, "Security lighting will be installed throughout the parking lot and at the exterior of the Stoneview Nature Center Building. The security lighting will be shielded and directed downward to avoid glare and excessive lighting off-site, and to protect the night sky. The light pole height will be 20 feet maximum. The parking lot lighting will be turned off after operating hours or after special events. Low level interior lights could be left on after hours for police patrols." In addition, the impact analysis in Section 4.1(d) says: "The proposed project would introduce new lighting sources through the inclusion of ceiling-to-floor glass windows and doors and building and security lighting. It is not anticipated that these features would create significant glare since the glass windows and doors would be treated with anti-reflective coating and building and security lighting would be shielded and directed downward. When the center is closed, only security lighting would be used. Therefore, the proposed project would not create substantial light or glare and would result in a less than significant impact on day and nighttime views." The Memorandum of Understanding between the County and the City of Culver City contains provisions for City review of project scoping documents during the design process.

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B-17	Comment	Landscaping: It is unclear in the December 2013 MND how there will be a "buffer" area between residences and the Project site. What types of trees are proposed? How tall will they be at planting? How long will they take to mature? The City should be given an opportunity to review a landscaping plan in order to ensure that its residents are adequately protected from Project visual and noise impacts.
	Response	Because this is a Design-Build project, the specific planting palette will not be selected until the design-builder starts the design. However, the project scoping documents provide the criteria for landscaping materials, including types, minimum size, appearance, and effects sought for areas such as the buffer zone. In addition, because the project site is at a higher elevation than the adjacent residential neighborhood, a natural buffer already exists. Landscaping will enhance this buffer. As stipulated in the Memorandum of Understanding between the City of Culver City and Los Angeles County, the City of Culver City will be provided with a copy of the scoping documents for review and comment during the design process.

B-18	Comment	Geology & Soils: The Geotechnical Investigation Report states the scope of work for this report did not include performing a geologic-seismic hazards evaluation of the subject site. However, this firm prepared a fault rupture hazard investigation at this same site for the Ohr Eliyahu Academy in 2010. Fault trenches were dug 5 to 16 feet deep and faults were encountered that were deemed to be associated with the active Newport-Inglewood fault zone. Furthermore, The Alquist-Priolo map for this area (Beverly Hills Quadrangle) shows a fault considered to have been active during Holocene time and to have a relatively high potential for surface rupture and which has been accurately mapped. These fault lines should be shown and identified in a Geotechnical Investigation Report and on the Conceptual Site Plan. As such, an additional geotechnical report should be prepared during Project design that addresses any mitigation factors that may need to be implemented during construction of the Project, and after completion of the Project. The final recommendations on the location and structural foundation design of the proposed building may be required to be revised based on the locations of these faults. In addition a major concern in constructing buildings and landscape areas within an earthquake fault zone is the future settling of the ground due to increase loads and watering within the fault zone area. This should also be addressed in the geotechnical report.
	Response	Section 4.6 a-ii states that "The proposed project will adhere to the recommendations identified in the Geotechnical Evaluation or other equally-effective site specific engineering techniques in compliance with city requirements." The Geotechnical Report (Appendix C- Cover letter) indicates that "additional fault investigations should be performed at the site." These additional investigations performed during the design phase would include additional geotechnical analysis in the vicinity of the Stoneview Nature Center Building to identify potential faults and determine the appropriate foundations for the structure.

B-19	Comment	The Geotechnical investigation Report has plotted the 50 foot building setback lines on Exhibit 2 of the report. However there is not discussion as to how the limits of these lines were determined. Why does the easterly setback line have such a prominent angle break at its northerly end?
	Response	The building orientation in this area will be finalized after the Geotechnical Investigation discussed above is completed, and will comply with set backs mandated by zoning laws, ordinances, rules, and regulations required by California Public Resource Code (PRC) Section 2621 et seq. and the California Building Code (CBC) and Uniform Building Code (UBC) for Seismic Zone 4.

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B-20	Comment	A 6-inch Chevron petroleum pipeline has been identified that traverses the Project site having only 2 feet of cover. Culver City records indicate that this line contains gasoline which is highly flammable and extremely volatile if improperly disturbed. The Geotechnical Investigation Report should prepare an in-depth analysis of how this pipeline should be protected during construction and recommend final design parameters to insure the pipeline will be able to withstand the loading of future vehicular traffic.
	Response	Mitigation Measures HHM-MM-1 and 2 (Section 4.8) have been included to specifically address the concern raised by this comment. The measures indicate, in part, that "[c]construction equipment may cross the pipeline only where [the Chevron Pipeline Company] CPL has checked the cover, has determined adequacy to meet load-bearing requirements, and has approved the crossing location."

B-21	Comment	There is an existing steep slope along the Project site’s westerly boundary that has partially failed in the past. The Geotechnical investigation Report should recommend remedial measures for this slope and any other unstable slopes on the site.
	Response	As noted in Section 4.6-a.iv of the IS/MND, "Based on field observations, steeper portions of the cut slope show evidence of ongoing minor surficial failures, erosion, and soil creep. However, there was no observed evidence of deep-seated, major landslides in fill or cut slopes, and the site is not on or in the path of any known existing or potential landslides. For these reasons, deep seated landslides are not considered a significant hazard...... No building structure is proposed within the western portion of the site in the vicinity of the landslide hazard zone or seismic slope instability. This portion of the proposed project site is designated for planting and parking." Also see response to comment A-4.

B-22	Comment	An environmental investigation and report appears to have been completed in 2010 but because it was not provided as part the December 2013 MND, the City was not able to review the study and it is not known if the report adequately addressed potential soil and groundwater contamination on the Project site and any mitigation that may be necessary. Also it is unclear whether a Phase I or Phase II environmental study was performed.
	Response	Soils at the project site were not sampled and analyzed for potential contaminants from past drilling activities (Phase II) because this contamination, if any, would be buried beneath approximately 17 to 23 feet of fill, and would not be disturbed by construction activities. The Phase I Environmental Site Assessment is cited in Section 4.8.b, and in included in the References (Section 5.0) as: *UltraSystems. 2009. Phase I Environmental Site Assessment, Ohr Eliyahu Academy, 5950 Stoneview Drive, Culver City, CA 90232 (APN: 4204-014-024, APN: 4204-014-025, APN: 4204-014-026): UltraSystems Environmental Inc., Irvine, CA. October.*

B-23	Comment	A conceptual hydrology study and grading plan should be prepared to determine the proposed drainage patterns and the memorandum of Understanding of storm runoff generated from the 25-year frequency rainfall that will be discharged from the Project site and possibly impact Culver City streets.
	Response	Best management practices (BMPs) to control runoff from the site will be specified in the site-specific Storm Water Pollution Prevention Plan (SWPPP) required by National Pollutant Discharge Elimination System (NPDES) requirements (Section 402 of the Clean Water Act). SWPPP requires that post-construction runoff must be equal to or less than runoff for pre-construction conditions. Therefore, there would be no net change in runoff to City Streets.

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B-24	Comment	Both the SWPPP and SUSMP should be reviewed by Culver City staff and the City's recommendations should be incorporated into these plans prior to approval by Los Angeles County. The City of Culver City will be responsible for accepting and accommodating any and all storm and non-storm water during construction and post construction and therefore should have the opportunity to review and make corrections to these plans prior to final approval.
	Response	The County will comply with SUSMP requirements, and will prepare a SWPPP to comply with NPDES requirements. The Memorandum of Understanding between the County and the City of Culver City contains provisions for City review of project documents during the design process.

B-25	Comment	Since the site drains to Culver City streets, the City should be given an opportunity to review the grading plan for the Project during the Project design stage and prior to the on-set of construction.
	Response	A grading plan will be checked and approved by Los Angeles County Building Department, as required. The Memorandum of Understanding between the County and the City of Culver City contains provisions for City review of project scoping documents during the design process.

COMMENT SET C

COMMENTS PROVIDED IN LETTER
BY MCGARRIGLE, KENNY & ZAMPIELLO, APC
(COUNSEL TO CONE FEE TRUST)

DATED FEBRUARY 20, 2014

McGarrigle, Kenney & Zampiello, APC

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OUR FILE NUMBER:

8597-001

February 20, 2014

VIA E-MAIL

Mr. Alioune Dioum
Project Manager
Los Angeles County Department of Public Works
900 South Fremont Avenue, 5th Floor
Alhambra, California 91803

Re: Comments of Cone Fee Trust to "Revised Initial Study/Mitigated Negative Declaration (IS/MND) for the Stoneview Nature Center"

Dear Mr. Dioum:

Our Firm is counsel to the Cone Fee Trust (CFT), a landowner within the Inglewood Oil Field (IOF). CFT has reviewed the Revised IS/MND and provides the following comments.

First, CFT has readily communicated to the County of Los Angeles (County) that the County's purportedly "separate" IS/MND documents – one for Stoneview Nature Center (Stoneview) and one for Park to Playa (P2P) - are flawed and inconsistent with the California Environmental Quality Act, Public Resource Code §21000 *et seq*. ("CEQA") and CEQA Guidelines, California Code of Regulations, Title 14, Chapter 3, §15000 *et seq* ("CEQA Guidelines"). Written comments have previously been furnished concerning these proposed IS/MNDs by CFT and also by CFT's lessee, Plains Exploration and Production Company ("PXP") (now, Freeport-McMoRan Oil & Gas (FMO&G)) (dated February 15, 2013, August 21, 2013 and November 22, 2013), among other submissions and comments. The comments substantially detail that multiple significant environmental, public health and safety and other impacts would arise if the proposed Stoneview and P2P projects proceed. These significant impacts require thorough study through an environmental impact report (EIR), and adoption of a mitigated negative declaration is unwarranted and defective under CEQA and the CEQA Guidelines. Those prior written comments are already in the possession of the County's representatives and are incorporated herein. It is common knowledge that the County's

P2P IS/MND specifically plans to integrate its design into Stoneview; hence, CEQA continues to be violated by the County's piece-mealing of these two patently integrated projects. Segment C of the P2P project and the revised IS/MND for Stoneview must be required to be presented (and, in fact, presented) and evaluated through a unified, concurrent approval process. As FMO&G noted several months ago, "[F]ailure to include this evaluation [of the interrelation of these two projects and the myriad environmental and other impacts stemming from each independently and each in the context of their overlapping and integrated plans] in the IS/MND and project drawings essentially precludes a complete analysis." As the revised IS/MND concedes that the Stoneview project is related to P2P, the County's continued effort to piece-meal the review of these projects to attempt to avoid an EIR, etc. is counter-intuitive and contrary to the law.

That the effort to separate Stoneview from P2P (by presenting the current revised IS/MND for Stoneview as somehow properly submitted for stand-alone review) is contrary to other communications from the County regarding P2P and is belied by the law and common sense is clear. The Office of Hon. Mark Ridley-Thomas, Chairman of the Los Angeles County Board of Supervisors, sent correspondence to CFT dated May 17, 2013, which correspondence properly notes that the proposed trail should not be subject to "piece-mealing" under §21159.27 of CEQA ["A project may not be divided into smaller projects to qualify for one or more exemptions pursuant to this article"]. Yet, here, and despite its own admonition, the revised IS/MND for Stoneview seeks to proceed with construction of substantial improvements while omitting from the design and analysis one of the key ingress/egress points that the County is planning – the P2P trail and trailhead, which omission effectively renders the underlying usage, traffic and related environmental impacts analyses wholly understated and materially misleading. As the County knows that it intends to integrate its proposed P2P trail into the Stoneview design and further knows that P2P trail usage will substantially increase the extent and frequency of public usage, traffic and myriad environmental burdens and risks in and about Stoneview, the County's continued separation of these two projects is facially and legally unsustainable. In point of fact, the County's course of action here is exactly what piece-mealing consists of: division of a unified project, in this case, a multi-mile trail and a feeder, nature center, into various segments with approval of some parts for construction before a connecting section is finally designated, without the entirety of the project being analyzed under CEQA as a whole. Just because this is a regional trail or a nature center linked thereto, instead of a freeway or road, does not allow piece-mealing.

Such an approach is barred under §21159.27.

Second, it is important to note, in addition to the specific comments made by FMO&G and CFT to date, that planning a nature center and a trail in the vicinity of oil facilities is complex and requires an environmental impact report. *Citizens for East Shore Parks v. California State Lands Commission, Chevron USA Real Party in Interest* (2011) 202 Cal.App.4th 549. In addition to the special types of issues identified by FMO&G and CFT, the environmental analysis must include an adequate and complete baseline that reflects the current, operative condition of the oil facility at the project site, consistent with Supreme Court authority. 202 Cal.App.4th at 557-558. The Stoneview IS/MND does not do so (a fact which FMO&G's own comments of this date further address). Moreover, as Stoneview admittedly is being designed as a hub for the proposed P2P trail (with design drafts contemplating various ingress/egress points), the County (in considering the Stoneview project) must evaluate the environmental impacts of including a trail that potentially interferes with existing oil and gas rights in the area and surface access guaranteed under Supreme Court case law. Such projects may constitute an inverse condemnation of some or all of the oil and gas production interests. All of these significant issues require study in an EIR consistent with CEQA and CEQA Guideline requirements. To (1) exclude the P2P project from the Stoneview IS/MND and (2) purport to separately proceed with a P2P Segment C IS/MND in a manner so as to improperly circumvent CEQA, is indefensible and fails to allow decision-makers to properly consider (as CEQA requires) the significant environmental and other well-catalogued impacts as a whole ***before*** determining whether approval is warranted. This, among other defects in the revised IS/MND, precludes action purporting to approve Stoneview unless and until there has been full compliance with CEQA through an adequate EIR and public comment thereafter.

Third, it does not need to be belabored that planning a public meeting center and thoroughfare through and amid oil production facilities (again, Stoneview's design involves the integration and unification of Stoneview with the P2P trail) raises substantial Homeland Security issues as a matter of Federal law. The fencing/gates referenced in the IS/MND (in addition to acknowledging Stoneview's linkage to P2P without accounting for all of the substantial burdens and risks associated therewith) are not designed or placed in any manner consistent with the integration of Homeland Security measures required in the context of a working energy facility. The inadequacy of the fencing/gates is further underscored, independently, by the absence of security and pedestrian and bicycle enforcement measures or provisions therein addressing the much larger volume of users, unaccounted for by virtue of the County's piece-mealing of the two projects and understatement of P2P use in the face of empirical evidence of far higher public usage. The absence of any Homeland Security study and review at all stands out as a highly critical failure of the IS/MND and that it is not appropriate for consideration or approval.

Fourth, the location of the trail and access to the trail from Stoneview also raises public traffic issues that require study, particularly since the Stoneview IS/MND does not account for the (already substantially understated) volume of citizens whom the County claims will utilize P2P. Currently, there appears to be a threat that access to La Cienega Boulevard, inherent to the lawful ingress/egress rights of the owners of the properties adjacent to Stoneview generally as well as for the use of the oilfield owners' properties (including, without limitation for oil production purposes), will be hindered, encumbered, impaired or blocked; these rights must be preserved and not interfered with through any permanent or purportedly interim trails and such trails tied to new facilities (Stoneview). It cannot be denied that Stoneview and P2P are unified, integrated projects; yet, neither IS/MND reflects the CEQA-required studies of the environmental impacts of the additional traffic and parking and the re-routing of community and industrial traffic and other countless impacts which would be revealed through a proper EIR. In addition, the EIR must address whether these impacts will be conducted in a manner that renders some or all of the oil production site inaccessible, and whether increased environmental effects and costs will accrue to the operators in both present and future operations. The EIR must address the impact on parking, traffic and safety for the residential community immediately abutting the currently abandoned project[1]; yet, Stoneview's revised IS/MND

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1 Traffic has not been acceptably reviewed. Stoneview (and P2P) do not address the absence of additional parking for and parking burden imposed upon homeowners, particularly since there is no alternative parking given that the neighborhood is surrounded by La Cienega and Rodeo Road with no street parking. The streets in this neighborhood are so narrow with resident parking using street parking on both sides of street; 2 way traffic of construction vehicles during construction and busses and passenger vehicles filling the streets post-construction has not meaningfully been discussed, studied or accounted for. Table 2.4-1 is a user breakdown for the center, but that table doesn't properly include users that will park there to utilize the proposed P2P trail. Understating the number of users and number of vehicles (a product of the

(since it ignores P2P usage and traffic issues) effectively hinges on substantively and substantially incomplete and understated information and figures. Moreover, it is possible that the County will be courting inverse condemnation liability through the placement of a trail. These increased environmental effects and costs, and the other environmental impacts which are associated with such a trail and a nature center that will magnify the usage of the trail, must be studied in an EIR. The revised IS/MND fails to demonstrate that the County has complied with the law and underscores that these proceedings should be immediately suspended and CEQA-compliant steps (including preparation of an EIR jointly reviewed and analyzed in the context of the unified projects) undertaken.

Further, the County's attempt in the IS/MND to circumvent the failure to conduct a proper usage, traffic and parking study and preparation of an EIR (by asserting that the County will simply close the gates/fences linking Stoneview to the P2P trail) is compelling evidence that the IS/MND must be withdrawn and an EIR prepared. First, by asserting that the P2P trail linkage to Stoneview would just somehow be closed if a traffic problem arose (and the IS/MND provides no logistical details or thresholds therefor or how such risks would be identified and managed), the County is conceding that Stoneview and Segment C of the P2P trail are unified, integrated projects – rendering the IS/MND improper piecemealing in violation of CEQA. Second, even the suggestion that the County would somehow close the P2P trail access gates/fences linking the trail to Stoneview begs the question – where would the public utilizing the trail go? As CFT and other stakeholders have been addressing to the County for months, the County's attempt to piecemeal Segment C of the P2P trail (and include it in it trail design that follows the southerly perimeter of Stoneview so that the public would be coming immediately up to oil property and traverse over oil/gas piping) is legally untenable, threatens public health and safety, creates new and unnecessary Homeland Security risks and, like Stoneview, has not been the subject of the required EIR. CFT has suggested to the County that any P2P trail, if it could overcome an EIR study and review, should only be permitted to traverse through the northerly portion of the Stoneview site (not around it or immediately abutting the working oil field) and exit (to the west) from Stoneview to property above (north of) the IOF so as to minimize risks associated with these projects.

County's improper piece-mealing of these two projects) is inappropriate and requires, in fact, full and thorough consideration of the countless risks and additional burdens.

Fifth, further substantive problems with the content of the IS/MND persist. For example, Executive Summary Background (Page ES-1) references the Baldwin Hills Park Master Plan in the project description. The five-acre Stoneview project site is located at 5950 Stoneview Drive in Culver City, and is included in the Baldwin Hills Park Master Plan. The 401-acre Kenneth Hahn State Recreation Area is approximately 1,000 feet to the east on the opposite side of La Cienega Boulevard. The project site was formerly operated as an elementary school, and was acquired by the Baldwin Hills Regional Conservation Authority (BHRCA) in 2011. BHRCA proposes to transfer the property title to the County as the sole owner as part of the project actions. However, and consistent with the concerns addressed above, the IS/MND's background errantly cites to the Baldwin Hills Park Master Plan as though it is a final event (when it is not and continues to improperly reference such improper concepts as "One Big Park")) but concurrently omits that immediately surrounding Stoneview is 1000+ acre oilfield. The "One Big Park" reference is not based on fact, would lead to inverse condemnation liability and itself represents a misrepresentation to the public and in derogation of the rights of the owners of private property in the IOF. When the Master Plan was adopted, BHRCA did so based on the (mis)understanding that major portions of the privately owned land in the Inglewood Oil Field was designated Open Space (so that it seemingly would naturally become park land). However, CFT's property - along with the IOF properties/parcels overall – are private property located in Los Angeles County and (a) has long since been documented not be designated Open Space, and (b) the County has presented no documentation whatsoever to rebut this established fact. The mistaken "Open Space" reference is repeated in other portions of the IS/MND (See, Environmental Check List 3-1 Baldwin Hills Park Master Plan), which erroneously asserts that the "Master Plan" serves as a guide for future natural open space and parkland acquisition and improvements, facility development and habitat restoration within the Baldwin Hills, and connections to trails, parks and other public facilities (CCI, 2002). These oft-repeated assertions are not correct and demonstrate that the IS/MND is not grounded upon reliable facts.

In short, that the IOF (and CFT's property therein) are not Open Space is a fact which greatly impacts the proposed future use of a major portion of the private property included in the plan. Citing the "Master Plan" - which itself is girded by mis-statements of material fact - renders the IS/MND substantively flawed and, at best, requires an EIR be undertaken. The proximity of Stoneview to the IOF and active and abandoned wells on site further underscores that the failure to reference the IOF and meaningfully address the operations thereat in the context of Stoneview and the proposed P2P leaves the IS/MND non-compliant with CEQA and unreliable for any County representative to consider or approve.

Sixth, the Stoneview property has had an abandoned building upon it for several years and, as such, the IS/MND cannot rely on statistics (parking, traffic, usage) associated with abandoned structures rather than the statistics associated with similarly situated nature centers or hubs. An EIR is required because, among other things, such a study would compare the risks and burdens associated with like facilities in the context of the unique Stoneview location and the surrounding IOF (and its uses and the rights of its owners) and residential community, rather than hinging an analysis comparing a new center to an abandoned structure and without regard for the varied and substantial physical and environmental conditions surrounding same.

Seventh, we also note that Culver City has suggested that access to Stoneview be accorded through the field via La Cienega/ Kenneth Hahn bridge and over another IOF owner's parcel to reach County land and that pathway is a form of traffic mitigation. Traffic study for neighborhood entry has not been properly reviewed. Moreover, in connection with the parties' communications to the County regarding the P2P concept, such proposed traffic patterns present myriad health and safety risks and give rise to inverse condemnation issues, etc. CFT objects to Culver City's suggestion and, given the P2P project's last set of designs, we understand that the County, too, agrees that such a traffic pattern is not feasible.

Thank you in advance for your review and consideration of CFT's comments and concerns. All of our client's rights and remedies are reserved.

Very truly yours,

Patrick C. McGarrigle of
MCGARRIGLE, KENNEY & ZAMPIELLO, APC
8597-001\ltr\ CFT - Stoneview IS-MND Comments 2-20-14
cc: Ms. Karly Katona (Via E-mail)

UltraSystems
environmental management planning

RESPONSE TO COMMENTS

REVISED INITIAL STUDY/MITIGATED, NEGATIVE DECLARATION, STONEVIEW NATURE CENTER dated December 2013

Submitted to Los Angeles County Department of Public Works

Attention: Alioune Dioum, Project Manager

SUMMARY OF COMMENTS		
Designation		**Description**

Comments provided in letter dated February 20, 2014 by McGarrigle, Kenny & Zampiello, APC (Counsel to Cone Fee Trust)

C-1	Comment	Preparing "separate" IS/MND documents for Stoneview Nature Center and Park to Playa is flawed and inconsistent with CEQA. P2P IS/MND specifically plans to integrate its design into Stoneview; hence, CEQA continues to be violated by County's piece-mealing of these two patently integrated projects. Stoneview and P2P should be evaluated through an unified, concurrent approval process.
	Response	The Baldwin Hills Regional Conservation Authority (BHRCA) is the lead agency for the separate Park to Playa regional trail project. Please see Response I-1 for a discussion and update.
C-2	Comment	The environmental analysis must include an adequate and complete baseline that reflects the current, operative condition of the oil facility at the project site, consistent with Supreme Court authority.
	Response	The current operative condition of the Inglewood Oil Field is included in the discussion of baseline conditions in Section 3.1 Environmental Setting.
C-3	Comment	Planning a nature center and a trail in the vicinity of oil facilities is complex and requires an environmental impact report.
	Response	There is no evidence that any aspect of the proposed project would cause a significant environmental effect that could not be mitigated to a less than significant level. The Stoneview Nature Center site was formerly an elementary school, and would be now used as a nature center. For this reason, a Mitigated Negative Declaration (MND) was prepared instead of an Environmental Impact Report (EIR).
C-4	Comment	Public meeting center and thoroughfare through and amid oil production facilities raises substantial Homeland Security issues as a matter of Federal law. The fencing/gates referenced in the IS/MND are not designed or placed in any manner consistent with the integration of Homeland Security measures required in the context of a working energy facility.
	Response	An eight foot high metal fence will be placed around the facility to prevent visitors from encroaching on adjacent parcels.
C-5	Comment	Open space reference repeated within IS/MND asserts the Master Plan serves as a guide for future natural open space, parks, facilities, habitat restoration, and connections to trails, parks and other public facilities. CTF and other private properties are not designated as open space.
	Response	Open space designations are included in the Baldwin Hills Park Master Plan prepared by the California Department of Parks and Recreation and the Baldwin Hill Conservancy, which does serve as a guide for future natural open space, parks, facilities, habitat restoration, and connections to trails, parks and other public facilities. See Figure 4.10-1
C-6	Comment	Trail potentially interferes with existing oil and gas rights in the area and surface access.
	Response	The Baldwin Hills Regional Conservation Authority (BHRCA) is the lead agency for the separate Park to Playa regional trail project. Please see Response I-1 for a discussion and update.
C-7	Comment	It is possible increased environmental effects and costs will accrue to the operators in both present and future operations. The EIR must address the impact on parking, traffic and safety for the residential community immediately abutting the currently abandoned project
	Response	This document is an IS/MND, and not an environmental impact report (EIR). The issues analyzed are consistent with CEQA Guidelines.
C-8	Comment	Pedestrian and bicycle enforcement measures or provisions therein addressing the much larger volume have not been addressed.
	Response	Interference with pedestrian or bicycle transportation in the project would be analyzed as part of mitigation measure T-MM-2 (see response to comment B-8).

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RESPONSE TO COMMENTS

REVISED INITIAL STUDY/MITIGATED, NEGATIVE DECLARATION, STONEVIEW NATURE CENTER dated December 2013

Submitted to Los Angeles County Department of Public Works

Attention: Alioune Dioum, Project Manager

SUMMARY OF COMMENTS	
Designation	**Description**

Comments provided in letter dated February 20, 2014 by McGarrigle, Kenny & Zampiello, APC (Counsel to Cone Fee Trust)

C-9	Comment	Regarding La Cienega and Rodeo Road street parking, the streets in this neighborhood are so narrow with resident parking using street parking on both sides of street. Traffic of construction vehicles during construction and busses and passenger vehicles filling the streets post-construction has not meaningfully been discussed, studied, or accounted for. Access may be hindered, impaired, or blocked.
	Response	These concerns will be addressed by mitigation measures T-MM-1 through T-MM-3. In addition, the December 2013 IS/MND states that "Construction contracts will contain a stipulation that construction vehicles must be parked in a way to avoid obstruction of emergency access."

C-10	Comment	Culver City has suggested that access to Stoneview be accorded through the field via La Cienega/ Kenneth Hahn bridge and over another 10F owner's parcel to reach County land and that pathway is a form of traffic mitigation. Traffic study for neighborhood entry has not been properly reviewed and is not feasible.
	Response	The Baldwin Hills Regional Conservation Authority (BHRCA) is the lead agency for the separate Park to Playa regional trail project. Please see Response I-1 for a discussion and update.

C-11	Comment	There are no details on thresholds for closing the P2P trail linkage to Stoneview if a traffic problem arose.
	Response	Traffic concerns that may develop as a result of the project are addressed in provisions contained in the Memorandum of Understanding between the City and County. The Memorandum of Understanding states that "If mitigation measures prove to be inadequate and if parking demand exceeds supply at the site, the County in consultation with the City, will consider funding additional mitigation measures or restricting or closing trail access from the Nature Center.

C-12	Comment	Stoneview property has had an abandoned building upon it for several years and, as such, the IS/MND cannot rely on statistics (parking, traffic, usage) associated with abandoned structures rather than the statistics associated with similarly situated nature centers or hubs.
	Response	In an initial study/mitigated negative declaration, impacts are analyzed in terms of the change from existing conditions. The baseline for the December 2013 IS/MND was an unused site with abandoned buildings.

COMMENT SETS D & E

COMMENTS PROVIDED IN LETTER
BY FREEPORT-MCMORAN OIL & GASGENERAL
DATED FEBRUARY 20, 2014

FREEPORT-MCMORAN OIL & GAS

Freeport-McMoRan Oil & Gas
5640 South Fairfax Avenue
Los Angeles, CA 90056

Telephone: 323-298-2200

February 20, 2014

Mr. Alioiune Dioum, P.E.
Project Manager
Los Angeles County Department of Public Works
900 South Fremont Avenue, 5th Floor
Alhambra, California 91803

VIA ELECTRONIC MAIL and FEDERAL EXPRESS

RE: Initial Study/Mitigated Negative Declaration (IS/MND) for the Stoneview Nature Center

Dear Mr. Dioum:

As Operator of the Inglewood Oil Field (IOF), the surface area of which is directly south and east of the proposed project, Freeport-McMoRan Oil & Gas (FM O&G), has reviewed the IS/MND and our comments are within, and enclosed to, this letter. We request the IS/MND be revised so that it incorporate the current planning for the so-called Segment "C" of the associated Park to Playa trail through the proposed Stoneview Nature Center site, accurately evaluate potential impacts to mineral resources, and accurately reflect the potential for impacts based upon the proposed City of Culver City's Oil Drilling Regulations for the Culver City Portion of the Inglewood Oil Field *Discussion Draft* (if this reference remains). We also request that references and figures referring to the "One Big Park" concept be deleted since they have no bearing on the proposed project and are based on the unsupported assumption that the active, privately owned, oilfield will be converted to parkland. The MND should incorporate a condition to reflect that the so-called Segment "C" is ultimately expected to be routed through the proposed Stoneview Nature Center site, remove any measures that could preclude the trail from being routed through the site, and note that such a routing is necessary to avoid future land use conflicts with existing and future oil and gas related activities.

The IS/MND analyzes the proposed Stoneview Nature Center project without considering potential cumulative impacts from the proposed Park to Playa project. The original design of the Park to Playa project included a public trail through the IOF parcel immediately south of the proposed project site and within the surface boundary of IOF, referred to as "Segment C." As FM O&G has repeatedly stated, this location is not feasible as it would significantly interfere with FM O&G's access to the mineral estates that comprise the IOF. The mineral estate is the dominate estate under California law and the mineral owner, or its lessee, has the superior right to use as much of the surface of the land as is reasonably necessary for the development of the mineral estate. If Segment C of the Park to Playa trail is to be feasible, it must be routed through the Stoneview Nature Center site. Accordingly, the subject IS/MND should be revised to include the reasonably foreseeable Park to Playa trail route through this site and to adequately analyze cumulative impacts of the two projects.

While, the IS/MND acknowledged that new oil exploration and drilling activities on the Culver City portion of the Inglewood Oil Field are reasonably expected to resume alongside existing, oil and gas production, processing and associated activities, it did not include any existing oilfield operations in the environmental baseline and analysis. Although new exploration and drilling activities have not occurred since 2002, while the City of Culver City's has undertaken efforts to update its oil drilling ordinance oil and gas production, processing and associated activities have taken place on the adjacent property since the 1920's, and continue to take place today. Upon adoption of Culver City's pending ordinance, new oil and gas exploration and drilling activities will resume alongside all existing oil and gas production, processing and associated activities. As such, the IS/MND must be revised so that it appropriately analyzes impacts of the proposed Park to Playa and Stoneview Nature Center projects in consideration of the currently active, and reasonably foreseeable oilfield activities immediately adjacent to the site. Instead, at page 4-55 the MND concludes without any back-up that: "The proposed project will not utilize, or result in an impact to the availability of, known oil and gas or other mineral resources of value to the region and residents of the state."

The IS/MND purports to use the City of Culver City's Oil Drilling Regulations for the Culver City Portion of the Inglewood Oil Field *Discussion Draft* as a basis for environmental analysis. However, after recognizing that the Discussion Draft as currently written would impose a 400-foot setback from developed areas, the MND concludes (again without any support) that because "oil and gas drilling may occur within 400 feet of the Stoneview nature (sic) Center at the discretion and approval of the Culver City Community Development Director" that such approval <u>would be granted</u> and "The Stoneview Nature Center would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan." To the extent the references to the Culver City Discussion Draft, including Figure 4.11-1, are included, the impact analysis must be revised to reflect actual, environmental conditions based on evidence and factual representation. The analysis must reflect the possibility that the Discussion Draft is adopted and that Culver City <u>declines</u> to allow drilling within 400-feet. In such a case there would surely result in an impact to the availability of known oil and gas or other mineral resources and the MND must be revised to reflect that potential adverse impact.

Alternatively, if the so-called Segment C is relocated through the proposed Stoneview Nature Center site, the extent of the 400-foot buffer would not be expanded from existing conditions and impacts would be reduced. Thus the MND should incorporate a condition to reflect that the so-called Segment "C" is ultimately expected to be routed through the proposed Stoneview Nature Center site, and that such a routing is necessary to avoid future land use conflicts with existing and future oil and gas related activities. This IS/MND should not include measures, such as T-MM-2, that could preclude the Park to Playa trail route from going through the Stoneview Nature Center site.

The IS/MND also suggests that the active, IOF will be converted into a public park. Any such reference or formal statements as to whether or not the IOF will be turned into a park are premature and misleading. There are several private individuals and entities with ownership interests that comprise the IOF. Assertions regarding the future use of the land for anything other than oil and gas exploration, drilling, production, processing and associated activities, are unsupported speculation absent indication that the applicable landowners are willing to relinquish their property rights. As such, it is inappropriate to include this discussion and figure in the IS/MND and both should be removed from the document.

FM O&G encourages the County to work with us to resolve the concerns identified in this letter and the attachment to it since the project. Since the project, as currently proposed, could preclude the Park to Playa route from going through the Stoneview Nature Center site, it may subsequently result in significant, adverse impacts to the surface operations and mineral resources of the IOF, necessitating the preparation of an EIR.

Thank you in advance for your consideration of these comments and concerns, and the more specific detailed concerns that are attached to this letter. Please feel free to contact me should you have any questions.

Sincerely,

L Vlk

Laura Vlk
Senior EH&S Specialist

Encl.

Cc: Steve Rusch, Vice President EH&S and Government Affairs
Stephen Burke, Manager Land
John Martini, Manager EH&S
Candace Salway, Manager EH&S
Gail Farber, Director, Los Angeles County Department of Public Works
Charles D. Herbertson, Public Works Director/City Engineer, City of Culver City
Ana Petric, Deputy Chief of Urban Projects and Watershed Planning Division, Baldwin Hills Regional Conservation Authority
The Honorable Mark Ridley-Thomas, Second Supervisorial District; Attn: Karly Katona

Freeport-McMoRan Oil & Gas
Detailed Comments on the County of Los Angeles Stoneview Nature Center Revised IS/MND
February 20, 2014

Page	Section/Paragraph	Comment
ES-2	Bullet 4	This bullet incorrectly states that "methane gas may accumulate beneath the floor slab of the proposed Stoneview Nature Center because the project site overlies the Inglewood Oil Field." This statement is only partially true, and suggests that somehow the Inglewood Oil Field is creating a methane impact. There are a variety of factors that give rise to the concern about the presence of methane. The bullet should be updated to reflect actual, environmental conditions, based on scientific, documented evidence as follows: "methane gas may accumulate beneath the floor slab of the proposed Stoneview Nature Center because naturally occurring methane may occur in the soil of the Project site due biogenic (swamp or sewer) gas, thermogenic (oil field) gas, and processed natural (or piped) gas.
1	Bullets 3 and 7	Bullet 3 states that the baseline year for impact analysis will be 2013, and bullet 7 states that an acknowledgement was made that future exploration and field development may occur at the IOF. However, the IS/MND did not include on-going, longstanding, oil and gas production, processing and associated activities within the baseline, environmental conditions. Although new exploration and drilling have not occurred since 2002, production, processing and associated activities have taken place on the adjacent property since the 1920's without interruption. Upon adoption of Culver City's pending ordinance, new oil exploration and drilling activities will resume alongside the continuous production, processing and associated activities. As such, the IS/MND must be revised so that it appropriately analyzes impacts of the proposed project in consideration of the active, and reasonably foreseeable oilfield activities immediately adjacent to the site. Moreover, the analysis needs to account for the fact that Culver City may enforce a large buffer between any oil and gas activities and Park to Playa trail or Stoneview Nature Center activities. For this reason we believe that in order to conclude that there will be no incompatibilities, the MND must require that to the extent possible, new trails associated with the Park to Playa project should be located within the proposed Stoneview Nature Center site.
1	Bullet 5	This bullet states that the Park to Playa "separate" trail project was expanded. While this is a step in the right direction, the IS/MND still fails to fully evaluate impacts associated with the proposed Park to Playa project. The original design of this project proposed a public trail through the IOF parcel immediately south of the proposed project site and within the surface boundary of the active, IOF, referred to as "Segment C." As we have communicated to the County in the past, if Segment C of the Park to Playa trail is to be feasible, it must be routed through the Stoneview Nature Center site. Accordingly, the subject IS/MND must at least acknowledge the reasonably foreseeable conclusion that Segment C of the Park to Playa trail will eventually be routed through this site. Such a routing is the only way to avoid adverse impacts to the surrounding oil and gas activities. Additionally, the IS/MND must not impose mitigation measures that would prevent the trail from being routed through the site (for example T-MM-2).

Page	Section/Paragraph	Comment
1	Bullet 8	This bullet states that a discussion was added to address potential hazards to the oil field from potential cigarette smoking and vandals. This section does not adequately analyze the risks associated with fire hazards to the active, Inglewood Oil Field. Simply stating that such activities are illegal does not mitigate the reasonably foreseeable environmental impact caused by people who break the law. The proposed project would bring hundreds of park users within a close proximity to active, oilfield operations on a day to day basis. This opens up the IOF to new trespassing and vandalism risks as the park provides the public with easier access to remote areas of the field. The IS/MND does not propose any additional police services or other safety measures to prevent this. As such, this impact analysis must be revised so that potential environmental impacts are adequately disclosed, analyzed, classified and mitigated. For example, a landscaped buffer will be provided along Stoneview Drive to separate the Nature Center from the single family homes. Such a landscape buffer should also be provided on site where the property is adjacent to the active, Inglewood Oil Field. FM O&G should be given an opportunity to review this landscaping plan to ensure its adequacy and compatibility with oil field operations.
2-6	Community Outreach	This section includes the establishment of a community advisory committee (CAC) to address issue related to traffic, parking programming, and/or other issues in the surrounding community due to the operation of the Stoneview Nature Center. To ensure that this CAC does not conflict with the requirements and administration of the Baldwin Hills Community Standards District Community Advisory Panel, the mitigation measure, condition of approval, or other document creating the new CAC should clearly spell out the matters that are appropriate for CAC input. Specifically, matters pertaining to the Inglewood Oil Field should be explicitly excluded from the CAC jurisdiction, since there are already a multiplicity of citizen and agency groups with oversight of those activities.
2-11	Figure 2-3-1 Conceptual Site Plan	The reference of the "Future Trail Connection" on this figure should be properly identified as part of the Park to Playa project. This figure needs to depict the current anticipated routing of the Park to Playa trail through this site as opposed to the location shown on the MND figures through the active, Inglewood Oil Field to the south. That southern routing is not feasible and creates adverse impacts.
3-2	Baseline Conditions	The baseline conditions need to include the activities of the active, Inglewood Oil Field (oil and gas exploration, drilling, production, processing and associated activities).
3-2	Aesthetics	Please update as follows to reflect actual conditions: “The Blair Hills Single-family residential community is north, ~~and~~ natural landscape is west, <u>and the active, Inglewood Oil Field</u> is south and east of the project site.”

Page	Section/Paragraph	Comment
3-2	Air Quality	The description of the air quality baseline lacks a description of nearby sources of air emissions including the vehicle emissions from La Cienega and other nearby roadways, the adjacent single-family residences and the oil and gas exploration, drilling, production, processing and associated activities at the adjacent, active Inglewood Oil Field.
3-4	Hydrology and Water Quality; 2nd paragraph	This paragraph does not describe, in full, the variety of causes of the Baldwin Reservoir failure. The following text must be added to provide an accurate, evidence based description of environmental conditions: An innovative design of the reservoir was intended to prevent tectonic subsidence and water injection from jeopardizing the reservoir. In a study of the reservoir failure Wright presents records that document that a field change to the design during construction undermined most of the features intended to accommodate the original design protections. As such, it has been theorized that the design changes also played a role in the reservoir's eventual collapse (Casagrande et. al 1972).
4-12	Second paragraph	The first sentence must disclose that the project site is immediately adjacent to the existing and active, Inglewood Oil Field.
4-20	e)	This impact discussion fails to disclose that the active, Inglewood oil field is immediately adjacent to the project site. With implementation of the mitigation measures within the CSD, odor impacts from the Inglewood Oil Field have been mitigated to less than significant levels; however, in order to appropriately describe the existing, environmental setting for the proposed project, it must be disclosed that odors associated with oil and gas exploration, drilling, production, processing and associated activities at the adjacent, active Inglewood Oil Field could occur.
4-22	a)	The IS/MND draws entirely from the Baldwin Hills Master Plan (2002) for the results of presence/absence surveys of special-status species. Much of the text for the IS/MND is quoted directly from the Baldwin Hills Master Plan without update or clear citation. This approach gives the erroneous impression that the data and surveys summarized are more recent than they actually are. Many of the species referenced are no longer listed, and there is no indication whatsoever of their presence as described in detail in Exhibit 1 to this attachment.
4-26	c)	Please change as follows to adequately disclose environmental conditions: "The project site is within the <u>subsurface administrative field boundary of the active,</u> Inglewood Oil Field."

Page	Section/Paragraph	Comment
4-44	b) third paragraph	This paragraph states that "because methane gas may occur in the subsurface in the vicinity of oil and gas fields, the City of Los Angeles established Methane Zones and Methane Buffer Zones within the City limits." This statement leads one to believe that the *only* cause of methane in soils is the existence of oil and gas fields. This, however, is not the case. In the case of the soils of the immediately adjacent, active, Inglewood Oil Field (and therefore, it may be reasonably assumed the same conditions exist for project site soils), there are three types of gases that may exist within the geological and soil units underlying the active surface of the Inglewood Oil Field: 1) biogenic (swamp or sewer) gas; 2) thermogenic (field) gas; and, 3) processed natural (or piped) gas. Biogenic gas is primarily methane with carbon dioxide and sulfide gases that result from decomposition of organic material, such as from former marshy areas or from sewers. Although biogenic gas consists of mostly methane and carbon dioxide, these gases also consist of lesser amounts of ethane, propane, and butane, as well as trace amounts of hydrogen sulfide and ammonia. In the active surface field area, marshy areas were formerly present immediately north of the Baldwin Hills, in the former floodplain of Ballona Creek (Hsu et al. 1982). In addition, the large-diameter (approximately 15-foot) City of Los Angeles North Outfall Replacement Sewer underlies the active surface field boundary. Both of these features are potential sources of biogenic gas. Thermogenic gas is generated at depth when increased temperatures and pressures alter organic material to form gases. Similar to biogenic gas, thermogenic gas contains a broad range of gas components including methane, ethane, propane, and butane, as well as trace amounts of toxic gases, including hydrogen sulfide. Activities at the Inglewood Oil Field produce oil and associated thermogenic gas. Due to the probability of methane gas releases from naturally occurring thermogenic and biogenic sources in this prolific oil and gas province, the City of Los Angeles has established a zoning ordinance identifying two zones, a Methane Zone and a Methane Buffer Zone (Figure 4 7). Special requirements for new construction, existing construction, and monitoring for methane have been established for these zones. The Baldwin Hills are not in the City of Los Angeles, and therefore are not classified on the methane map. However, the field is surrounded by such zones, and there is likelihood that methane conditions beneath the field are consistent with the relatively high background levels of methane in the Los Angeles Basin. (Cardno ENTRIX, 2012). The Inglewood Oil Field, as a whole, has established 94 grids, all of which have been tested for methane soil gas with an active testing program with soil gas methane concentrations within the Culver City portion of the Field indicative of background levels

Page	Section/Paragraph	Comment
		The IS/MND should be updated with this information to reflect evidence based, environmental conditions.
4-47	h)	This impact analysis concludes that the project will have a less than significant impact to the active, IOF by introducing hundreds of people to a the perimeter of a remote area of the active, IOF. As we mentioned in our letters on the Draft IS/MND, the project, this could increase vandalism of the IOF, and increase exposure to fires from cigarettes and fireworks, for example. Simply stating that such activities are illegal does not mitigate the environmental impact caused. The IS/MND does not provide for increased patrolling of the area – particularly during evening hours – and in conjunction with the related Park to Playa trail project and the additional users and access point the trail could provide. This is a potentially significant impact and appropriate mitigation must be applied to bring residual impacts to a less than significant levels. Such mitigation could include, for example, a landscaped buffer along the boundary of the project site immediately adjacent to the active, Inglewood Oil Field. FM O&G should be given an opportunity to review this landscaping plan to ensure its adequacy and compatibility with oil field operations.
4-50	e)	This analysis does not disclose existing site drainage patterns and how the proposed project would change them. This must be included to ensure the proposed project will not compromise the existing stormwater drainage pattern of the active, IOF as permitted by a site specific NPDES permit from the LARWQCB.
4-70	c)	It is stated that noise analysis was performed for weekends only as a “conservative analysis.” In order to accurately depict a reasonable, environmental baseline, and to comply with the CEQA, noise analysis must be performed during peak traffic hours and must include noise associated with oil and gas exploration, drilling, production, processing and associated activities of the active, Inglewood Oil Field to adequately disclose actual, environmental conditions.
4-82	Last paragraph	This paragraph discusses the County’s Park to Playa Trail project. The original design of this project proposed a public trail through the IOF parcel immediately south of the proposed project site and within the surface boundary of IOF, referred to as “Segment C.” As FM O&G has repeatedly stated, this location is not feasible as it would significantly interfere with FM O&G’s access to the mineral estates that comprise the IOF. Therefore, the IS/MND should analyze the reasonably foreseeable location of the trail on the Stoneview Nature Center site and remove any measures that could preclude the Park to Playa trail alignment from going through the Stoneview Nature Center site
4-89	T-MM-2	This mitigation measure provides for the closure of access from the proposed Stoneview Nature Center to the Park to Playa trail in the event daily traffic exceeds a certain threshold. If this mitigation provides for the closure of access between Park to Playa and the Stoneview Nature Center, Segment C of the Park to Playa trail would not be feasible to construct. The main project objective of the Park to Playa Trail is to

Page	Section/Paragraph	Comment
		connect the Kenneth Hahn State Recreation Area to the beach. By closing off access of the Trail to the Stoneview Nature Center, this project objective of the Park to Playa Trail will not be able to be implemented and the need to put the trail through the active, Inglewood Oil Field – which would interfere with oil field operations - would be diminished. As such, this mitigation measure should be revised so it does not preculed the reasonably foreseeable alignment of the Park to Playa trail through the Stoneview Nature Center site.
4-90	Tables 4.16-12 and -13	These tables indicate that a portion of the Stoneview Nature Center would be an "assembly area." It should be clarified that this term is used for general parking requirement determinations and is not an indication of a specific use since no part of the proposed Stoneview Nature Center is designed nor depicted on plans to be an "assembly area."
4-93	1st Bullet Point	As FM O&G has repeatedly stated: The original design of the Park to Playa project proposed a public trail through the IOF parcel immediately south of the proposed project site and within the surface boundary of IOF, referred to as "Segment C." This location is not feasible as it would significantly interfere with FM O&G's access to the mineral estates that comprise the IOF. Therefore, the IS/MND should analyze a location of the trail on the Stoneview Nature Center site and must not include measures that would preclude the trail from going through the Stoneview Nature Center site. The mineral estate is the dominate estate under California law and the mineral owner, or its lessee, has the superior right to use as much of the surface of the land as is reasonably necessary for the development of the mineral estate. As we have communicated to the County in the past, if Segment C of the Park to Playa trail is to be feasible, it must be routed through the Stoneview Nature Center site. Accordingly, the subject IS/MND must be revised to include the Park to Playa trail through this site and to adequately analyze cumulative impacts of the two projects. This section of Stoneview Nature Center IS/MND attempts to separate the two projects and restrict any association with the Park to Playa Trail. This constitutes piecemealing of the environmental analysis..
4-95	c)	This analysis (and the analysis in the Hydrology section) does not disclose existing site drainage patterns and how the proposed project would change them. This must be included to ensure the proposed project will not compromise the existing stormwater drainage pattern of the Inglewood Oil Field as permitted by a site specific NPDES permit from the LARWQCB.
4-98	Probable Future Projects, Park to Playa Trail	Same as comment for page 4-93, 1st bullet point.

Page	Section/Paragraph	Comment
4-103 4-104	One Big Park Figure 4.18-3; one big park concept map	This section of the IS/MND suggests that the active, Inglewood Oil Field will be converted to a park. Any such reference or formal statements as to whether or not the IOF will be turned into a park are premature and misleading. There are several private individuals and entities with ownership interests that comprise the IOF. Assertions regarding the future use of the land for anything other than oil and gas exploration, drilling, production, processing and associated activities, are unsupported speculation absent indication that the applicable landowners are willing to relinquish their property rights. As such, it is inappropriate to include this discussion and figure in the IS/MND and both should be removed from the document.
Culver City Comment	Alternate Access	The City of Culver City suggests in their comments on this IS/MND that an alternate access route through the active, Inglewood Oil Field be used for construction. No such access from La Cienega Blvd. exists and such an access would unreasonably interfere with oilfield operations. As such, this suggested alternate access route is not feasible and should not be included in the IS/MND. Additionally, such an access route would require private property owner authorization.

Exhibit 1
Detailed Biological Analysis

Garden Slender Salamander
The ISMND states that the garden slender salamander is a CDFW Species of Concern that historically occurred in the Baldwin Hills. The garden slender salamander is not a California or federal threatened or endangered species, nor is it listed as a Species of Special Concern in the most recently published list of Amphibian and Reptile Species of Special Concern in California by the CDFW (Jennings and Hayes 1994). As such, there is no listing for garden slender salamander in the CNDDB Rarefind database. The IS/MND states that "the salamander was not detected in recent surveys, but the dry conditions during the survey period would have made it difficult to detect, and thus it may persist in the area". The "recent surveys" mentioned is actually referring to those conducted in 2000 for the Baldwin Hills Master Plan, 13 years previously. The year 2000 followed wet years in 1995, 1996, 1997, and 1998; 2000 was therefore not a period of drought or a dry period. No more recent presence/absence surveys have been conducted since 2000.

Bird Species
Similarly, the Stoneview Nature Center IS/MND states that "CDFW Species of Concern observed in or near the Baldwin Hills within the last decade includes burrowing owl, belted kingfisher, olivesided flycatcher, Swainson's thrush, yellow warbler, yellow-breasted chat, blue grosbeak, and tricolored blackbird." This again, is a direct quote from the Baldwin Hills Master Plan (2002). A review of the current list of California Species of Special Concern indicates that the belted kingfisher, Swainson's thrush, and blue grosbeak are no longer on the list (Shuford and Gardall 2008).

Of the remaining species still on the Species of Special Concern list, a review of the CNDDB Rarefind database indicates that none of these species has been documented sited in the Baldwin Hills in the past decade. The table below provides a summary of the location and date of the most recent documented occurrences of each species in any of the four USGS topographic quadrangles that comprise the Baldwin Hills and surrounding areas (Hollywood, Inglewood, Beverly Hills, and Venice) as listed in the CNDDB Rarefind database.

Table 1. Most Recent Documented Occurrence of CDFW Species of Concern near the Baldwin Hills

Species Name	Date of Occurrence	Location	Notes
Burrowing owl	2010	Ballona Wetlands	One breeding pair documented in Ballona Wetlands in 2010, prior documentation in CNDDB is for a siting in 1921
Olivesided flycatcher	N/A	N/A	No occurrences listed in CNDDB
Yellow warbler	N/A	N/A	No occurrences listed in CNDDB
Yellow-breasted chat	N/A	N/A	Only documented occurrence in Los Angeles County was in Baldwin Park quadrangle in 2001
Tricolored blackbird	N/A	N/A	Most recent documented occurrences in Los Angeles County were in Palmdale, La Liebre Ranch, and Neenack School quadrangles in 2009

The peregrine falcon is mentioned in the IS/MND as the only state or federally listed species documented to occur currently in the Baldwin Hills (no citation for this statement is provided in the IS/MND). The peregrine falcon was delisted from the federal list in 1999 and delisted from the state list in 2009. The species is known to occur in the Ballona Wetlands and has been sited a Kenneth Hahn State Recreation Area as recently as December 2013, based on observations listed on the Audobon Society webpage. According to the CNDDB Rarefind database, the only listed occurrences of the peregrine falcon in Los Angeles County were in 2005 in the USGS Pasadena topographic quadrangle and 2009 in the USGS Malibu Beach topographic quadrangle.

Los Angeles Pocket Mouse

The Stoneview Nature Center IS/MND states that another California state Species of Special Concern that could potentially occur in the Baldwin Hills is the Los Angeles pocket mouse. We reviewed the CDFW summary of species information as published in *Terrestrial Mammal Species of Special Concern in California* (1998). According to this summary, the species historic distribution extended from San Fernando and Burbank in the San Fernando Valley, east to Cabazon, south through the San Jacinto and Temecula Valleys to Aguanga, Warner Pass, Vail, and Temecula. As depicted in the CDFW species summary, the species has not been known to occur in the Baldwin Hills. This information coincides with the Baldwin Hills Conservancy publication, *Mammals of the Baldwin Hills*, which does not include the Los Angeles pocket mouse on its list of species that are confirmed or suspected to exist in the Baldwin Hills, but rather describes the species in its separate species accounts for those species known or expected to be locally extinct (Dines 2000). A review of the CNDDB Rarefind database indicates that the last documented occurrence of the species in Los Angeles County was in 1903 in Van Nuys.

Bats

The Stoneview Nature Center IS/MND states that two bat species of concern possibly still occurring in the Baldwin Hills are the pallid bat and the western mastiff bat. These two species are also described in the Baldwin Hills Conservancy publication, *Mammals of the Baldwin Hills,* as species that were not encountered during the 2000 survey, but expected to occur in areas of suitable habitat. We reviewed the USFS General Technical Report, *Bats in the South Coast Region,* which states that pallid bats were historically abundant from sea level to the western foothills but underwent a serious decline in population after the 1950s. The report states that "although this species can be found in rural settings, it appears to be intolerant of urban development" (Miner and Stokes 2005). A review of the CNDDB Rarefind database for pallid bat indicates the last known occurrence near the Baldwin Hills was in 1935 in Culver City. The only other occurrences within the four topographic quadrangles that include the Baldwin Hills area were in Hollywood in 1971.

Similarly, the western mastiff bat was historically known to be broadly occurring in southern California, particularly in the Los Angeles basin. However, recent surveys have shown much more limited detections in Los Angeles. It is expected that the loss of foraging habitat due to urbanization of creek drainages through watercourse channelization is responsible for the decline (Pierson and Rainey 1998). A review of the CNDDB Rarefind database for western mastiff bat indicates the last known occurrence near the Baldwin Hills to be in 1991 in the Hollywood quadrangle in the general vicinity of Hollywood, in 1987 in the Inglewood quadrangle (exact location unknown), and 1925 in the Beverly Hills quadrangle in the vicinity of Palms Avenue.

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RESPONSE TO COMMENTS

REVISED INITIAL STUDY/MITIGATED, NEGATIVE DECLARATION, STONEVIEW NATURE CENTER dated December 2013

Submitted to Los Angeles County Department of Public Works

Attention: Alioune Dioum, Project Manager

SUMMARY OF COMMENTS	
Designation	**Description**

General comments provided in letter dated February 20, 2014
By Freeport-McMoRan Oil & Gas (Operator of the Inglewood Oil Field)

D-1	Comment	Request that IS/MND be revised to incorporate the current planning for P2P Segment C through the proposed Stoneview Nature Center site, accurately evaluate potential impacts to mineral resources, and accurately reflect the potential for impacts based upon the proposed City of Culver City's Oil Drilling Regulations for the Culver City Portion of the Inglewood Oil Field Discussion Draft.
	Response	The Baldwin Hills Regional Conservation Authority (BHRCA) is the lead agency for the separate Park to Playa regional trail project. Please see Response I-1 for a discussion and update.

D-2	Comment	Request that references and figures referring to "One Big Park" concept be deleted since they have no bearing on the proposed project and are based on unsupported assumption that the active, privately owned, oilfield will be converted to parkland.
	Response	The "One Big Park" is discussed because the proposed Stoneview Nature Center is contiguous with areas included in the Baldwin Hills Park Master Plan that are part of the "One Big Park" concept.

D-3	Comment	MND should incorporate a condition to reflect that the so-called Segment C is ultimately expected to be routed through the proposed Stoneview Nature Center site, remove any measures that could preclude the trail from being routed through the site, and note that such a routing is necessary to avoid future land use conflicts with existing and future oil and gas related activities.
	Response	The Baldwin Hills Regional Conservation Authority (BHRCA) is the lead agency for the separate Park to Playa regional trail project. Please see Response I-1 for a discussion and update.

D-4	Comment	IS/MND analyzes the proposed Stoneview Nature Center project without considering potential cumulative impacts from the proposed Park to Playa project.
	Response	The Baldwin Hills Regional Conservation Authority (BHRCA) is the lead agency for the separate Park to Playa regional trail project. Please see Response I-1 for a discussion and update.

D-5	Comment	The original design of the Park to Playa project included a public trail through the IOF parcel immediately south of the proposed project site and within the surface boundary of IOF, referred to as “Segment C.” As FM O&G has repeatedly stated, this location is not feasible as it would significantly interfere with FM O&G’s access to the mineral estates that comprise the IOF. The mineral estate is the dominate estate under California law and the mineral owner, or its lessee, has the superior right to use as much of the surface of the land as is reasonably necessary for the development of the mineral estate.
	Response	The Baldwin Hills Regional Conservation Authority (BHRCA) is the lead agency for the separate Park to Playa regional trail project. Please see Response I-1 for a discussion and update.

D-6	Comment	IS/MND did not include any existing oilfield operations in the environmental baseline and analysis.
	Response	The Inglewood Oil Field is included in the discussion of baseline conditions in Section 3.1 Environmental Setting.

D-7	Comment	Upon adoption of Culver City’s updated oil drilling ordinance, new oil and gas exploration and drilling activities will resume alongside all existing oil and gas production, processing and associated activities. As such, the IS/MND must be revised so that it appropriately analyzes impacts of the proposed Park to Playa and Stoneview Nature Center projects in consideration of the currently active, and reasonably foreseeable oilfield activities immediately adjacent to the site.
	Response	Inglewood Oil Field operations are included in the discussion of baseline conditions in Section 3.1 Environmental Setting.

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By Freeport-McMoRan Oil & Gas (Operator of the Inglewood Oil Field)

D-8	Comment	Page 4-55 the MND concludes without any back-up that: "The proposed project will not utilize, or result in an impact to the availability of, known oil and gas or other mineral resources of value to the region and residents of the state."
	Response	Section 3.0 of the IS/MND acknowledges that Freeport-McMoRan Oil & Gas (FM O&G), the Operator of the oil field, estimates that approximately 50 percent of oil and gas reserves are recoverable using current technology, and anticipates that oil and gas drilling and production will continue in the future. Currently, Culver City is in the process of preparing an ordinance addressing oil and gas operations. FM O&G has indicated that they plan to resume oil and gas exploration, production, processing and associated activities within the boundaries of the Inglewood Oil Field in Culver City after the relevant ordinances are adopted (see reference FM O&G, 2013 in Revised December 2013 IS/MND).

D-9	Comment	The IS/MND purports to use the City of Culver City's Oil Drilling Regulations for the Culver City Portion of the Inglewood Oil Field Discussion Draft as a basis for environmental analysis. As currently written, the Discussion Draft would impose a 400-foot setback from developed areas. The MND concludes (again without any support) that because "oil and gas drilling may occur within 400 feet of the Stoneview nature (sic) Center at the discretion and approval of the Culver City Community Development Director" that such approval **would be granted** and "The Stoneview Nature Center would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan." To the extent the references to the Culver City Discussion Draft, including Figure 4.11-1, are included, the impact analysis must be revised to reflect actual, environmental conditions based on evidence and factual representation. The analysis must reflect the possibility that the Discussion Draft is adopted and that Culver City **declines** to allow drilling within 400-feet. In such a case there would surely result in an impact to the availability of known oil and gas or other mineral resources and the MND must be revised to reflect that potential adverse impact.
	Response	Culver City has drafted regulations for "Oil and Gas Drilling for the Culver City Portion of the Inglewood Oil Field." If adopted by the Culver City Council, oil and gas drilling would not be permitted within 400 feet of developed areas except at the discretion and approval of the Culver City Community Development Director if it can be determined that the reduction in the 400-foot setback will not be detrimental to public health, safety or general welfare. However, this restriction would not preclude "Directional Drilling" from areas beyond this setback to retrieve Mineral Resources within this zone.

D-10	Comment	This IS/MND should not include measures, such as T-MM-2, that could preclude the Park to Playa trail route from going through the Stoneview Nature Center site.
	Response	The Baldwin Hills Regional Conservation Authority (BHRCA) is the lead agency for the separate Park to Playa regional trail project. Please see Response I-1 for a discussion and update.

D-11	Comment	The IS/MND also suggests that the active, IOF will be converted into a public park. Any such reference or formal statements as to whether or not the IOF will be turned into a park are premature and misleading. There are several private individuals and entities with ownership interests that comprise the IOF. Assertions regarding the future use of the land for anything other than oil and gas exploration, drilling, production, processing and associated activities, are unsupported speculation absent indication that the applicable landowners are willing to relinquish their property rights. As such, it is inappropriate to include this discussion and figure in the IS/MND and both should be removed from the document.
	Response	The IS/MND makes no assertion that the active IOF will be converted to a park. The "One Big Park" is discussed because the proposed Stoneview Nature Center is contiguous with areas included in the Baldwin Hills Park Master Plan that are part of the "One Big Park" concept.

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RESPONSE TO COMMENTS

REVISED INITIAL STUDY/MITIGATED, NEGATIVE DECLARATION, STONEVIEW NATURE CENTER dated December 2013

Submitted to Los Angeles County Department of Public Works

Attention: Alioune Dioum, Project Manager

SUMMARY OF COMMENTS	
Designation	**Description**

General comments provided in letter dated February 20, 2014
By Freeport-McMoRan Oil & Gas (Operator of the Inglewood Oil Field)

D-12	Comment	The project, as currently proposed, could preclude the Park to Playa route from going through the Stoneview Nature Center site, it may subsequently result in significant, adverse impacts to the surface operations and mineral resources of the IOF, necessitating the preparation of an EIR.
	Response	The Baldwin Hills Regional Conservation Authority (BHRCA) is the lead agency for the separate Park to Playa regional trail project. Please see Response I-1 for a discussion and update.

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Detailed comments provided in letter dated February 20, 2014
By Freeport-McMoRan Oil & Gas (Operator of the Inglewood Oil Field)

E-1	Comment	This bullet incorrectly states that "methane gas may accumulate beneath the floor slab of the proposed Stoneview Nature Center because the project site overlies the Inglewood Oil Field." This statement is only partially true, and suggests that somehow the Inglewood Oil Field is creating a methane impact. There are a variety of factors that give rise to the concern about the presence of methane. The bullet should be updated to reflect actual, environmental conditions, based on scientific, documented evidence as follows: "methane gas may accumulate beneath the floor slab of the proposed Stoneview Nature Center because naturally occurring methane may occur in the soil of the Project site due biogenic (swamp or sewer) gas, thermogenic (oil field) gas, and processed natural (or piped) gas.
	Response	The suggested language has been added to the Executive Summary.

E-2	Comment	Bullet 3 states that the baseline year for impact analysis will be 2013, and bullet 7 states that an acknowledgement was made that future exploration and field development may occur at the IOF. However, the IS/MND did not include on-going, longstanding, oil and gas production, processing and associated activities within the baseline, environmental conditions. Although new exploration and drilling have not occurred since 2002, production, processing and associated activities have taken place on the adjacent property since the 1920's without interruption. Upon adoption of Culver City's pending ordinance, new oil exploration and drilling activities will resume alongside the continuous production, processing and associated activities. As such, the IS/MND must be revised so that it appropriately analyzes impacts of the proposed project in consideration of the active, and reasonably foreseeable oilfield activities immediately adjacent to the site. Moreover, the analysis needs to account for the fact that Culver City may enforce a large buffer between any oil and gas activities and Park to Playa trail or Stoneview Nature Center activities. For this reason we believe that in order to conclude that there will be no incompatibilities, the MND must require that to the extent possible, new trails associated with the Park to Playa project should be located within the proposed Stoneview Nature Center site.
	Response	The Baldwin Hills Regional Conservation Authority (BHRCA) is the lead agency for the separate Park to Playa regional trail project. Please see Response I-1 for a discussion and update.

E-3	Comment	This bullet states that the Park to Playa "separate" trail project was expanded. While this is a step in the right direction, the IS/MND still fails to fully evaluate impacts associated with the proposed Park to Playa project. The original design of this project proposed a public trail through the IOF parcel immediately south of the proposed project site and within the surface boundary of the active, IOF, referred to as "Segment C." As we have communicated to the County in the past, if Segment C of the Park to Playa trail is to be feasible, it must be routed through the Stoneview Nature Center site. Accordingly, the subject IS/MND must at least acknowledge the reasonably foreseeable conclusion that Segment C of the Park to Playa trail will eventually be routed through this site. Such a routing is the only way to avoid adverse impacts to the surrounding oil and gas activities. Additionally, the IS/MND must not impose mitigation measures that would prevent the trail from being routed through the site (for example T-MM-2).
	Response	The Baldwin Hills Regional Conservation Authority (BHRCA) is the lead agency for the separate Park to Playa regional trail project. Please see Response I-1 for a discussion and update.

E-4	Comment	This bullet states that a discussion was added to address potential hazards to the oil field from potential cigarette smoking and vandals. This section does not adequately analyze the risks associated with fire hazards to the active, Inglewood Oil Field. Simply stating that such activities are illegal does not mitigate the reasonably foreseeable environmental impact caused by people who break the law. The proposed project would bring hundreds of park users within a close proximity to active, oil field operations on a day to day basis. This opens up vandalism risks as the park provides the public with easier access to remote areas of the field. The IS/MND does not propose any additional police services or other safety measures to prevent this. As such, this impact analysis must be revised so that potential environmental impacts are adequately disclosed, analyzed, classified and mitigated. For example, a landscaped buffer will be provided along Stoneview Drive to separate the Nature Center from the single family homes. Such a landscape buffer should also be provided on site where the property is adjacent to the active, Inglewood Oil Field. FM O&G should be given an opportunity to review this landscaping plan to ensure its adequacy and compatibility with oil field operations.

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Submitted to Los Angeles County Department of Public Works
Attention: Alioune Dioum, Project Manager

SUMMARY OF COMMENTS	
Designation	**Description**

Detailed comments provided in letter dated February 20, 2014
By Freeport-McMoRan Oil & Gas (Operator of the Inglewood Oil Field)

	Response	The eastern ridgeline of the Kenneth Hahn State Recreation Area is also in close proximity to an active oilfield, and is analogous to the Stoneview Nature Center in this regard. The eastern ridgeline of the Kenneth Hahn State Recreation Area has never experienced problems with vandalism of oil field property or fires from discarded cigarettes. As noted in the IS/MND, smoking is illegal in County parks. Law violations are not environmental impacts, and therefore are not analyzed as part of the CEQA process.

E-5	Comment	This section includes the establishment of a community advisory committee (CAC) to address issue related to traffic, parking programming, and/or other issues in the surrounding community due to the operation of the Stoneview Nature Center. To ensure that this CAC does not conflict with the requirements and administration of the Baldwin Hills Community Standards District Community Advisory Panel, the mitigation measure, condition of approval, or other document creating the new CAC should clearly spell out the matters that are appropriate for CAC input. Specifically, matters pertaining to the Inglewood Oil Field should be explicitly excluded from the CAC jurisdiction, since there are already a multiplicity of citizen and agency groups with oversight of those activities.
	Response	Appropriate jurisdictional authorities of the CAC would be decided at the time the CAC is formed.

E-6	Comment	The reference of the "Future Trail Connection" on this figure should be properly identified as part of the Park to Playa project. This figure needs to depict the current anticipated routing of the Park to Playa trail through this site as opposed to the location shown on the MND figures through the active, Inglewood Oil Field to the south. That southern routing is not feasible and creates adverse impacts.
	Response	The Baldwin Hills Regional Conservation Authority (BHRCA) is the lead agency for the separate Park to Playa regional trail project. Please see Response I-1 for a discussion and update.

E-7	Comment	The baseline conditions need to include the activities of the active, Inglewood Oil Field (oil and gas exploration, drilling, production, processing and associated activities).
	Response	The following verbiage has been added to the section. "Well drilling in the Inglewood Oil Field began in 1924, and oil and gas exploration, drilling, production, processing and associated activities continues today."

E-8	Comment	Please update as follows to reflect actual conditions: "The Blair Hills Single-family residential community is north, and natural landscape is west, and the active, Inglewood Oil Field is south and east of the project site."
	Response	The suggested language has been added.

E-9	Comment	The description of the air quality baseline lacks a description of nearby sources of air emissions including the vehicle emissions from La Cienega and other nearby roadways, the adjacent single-family residences and the oil and gas exploration, drilling, production, processing and associated activities at the adjacent, active Inglewood Oil Field.
	Response	The air quality baseline in CEQA analyses normally addresses regional air quality, as characterized by attainment status, and sub-regional air quality, as characterized by the nearest ambient air quality monitoring station data. The contributions of traffic on local roadways and of Inglewood Oil Field operations are assumed to be the same whether or not the proposed project is built. The question is whether increases in air pollutant emissions *due to the project* are significant. The only time that local air pollutant concentrations are quantified as part of a CEQA air quality analysis is when carbon monoxide (CO) "hotspots" are evaluated. In those cases, the increase in ambient CO concentrations due to the project are added to the ambient CO levels, and the total is compared with ambient air quality standards. As discussed in Section 4.3 of the December 2013 IS/MND, however, current and forecast traffic conditions do not warrant a CO hotspots analysis.

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RESPONSE TO COMMENTS
REVISED INITIAL STUDY/MITIGATED, NEGATIVE DECLARATION, STONEVIEW NATURE CENTER dated December 2013
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Attention: Alioune Dioum, Project Manager

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By Freeport-McMoRan Oil & Gas (Operator of the Inglewood Oil Field)

E-10	Comment	This paragraph does not describe, in full, the variety of causes of the Baldwin Reservoir failure. The following text must be added to provide an accurate, evidence based description of environmental conditions: An innovative design of the reservoir was intended to prevent tectonic subsidence and water injection from jeopardizing the reservoir. In a study of the reservoir failure Wright presents records that document that a field change to the design during construction undermined most of the features intended to accommodate the original design protections. As such, it has been theorized that the design changes also played a role in the reservoir's eventual collapse (Casagrande et. al 1972).
	Response	The current narrative acknowledges that the dam failure was attributed to a variety of causes. Further analysis or an endorsement of Mr. Wrights theory regarding the dam failure is beyond the scope of the Stoneview Nature Center IS/MND.

E-11	Comment	The first sentence must disclose that the project site is immediately adjacent to the existing and active, Inglewood Oil Field.
	Response	The current, operative condition of the Inglewood Oil Field is included in the discussion of baseline conditions in Section 3.1 Environmental Setting.

E-12	Comment	This impact discussion fails to disclose that the active, Inglewood oil field is immediately adjacent to the project site. With implementation of the mitigation measures within the CSD, odor impacts from the Inglewood Oil Field have been mitigated to less than significant levels; however, in order to appropriately describe the existing, environmental setting for the proposed project, it must be disclosed that odors associated with oil and gas exploration, drilling, production, processing and associated activities at the adjacent, active Inglewood Oil Field could occur.
	Response	The Inglewood Oil Field is adjacent to the Stoneview Nature Center as noted on pages ES-1, 1, 2-1, 3-1, 3-2, 3-4, 4-26, 4-45, 4-51, 4-68 of the IS/MND.

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E-13	Comment	The IS/MND draws entirely from the Baldwin Hills Master Plan (2002) for the results of presence/absence surveys of special-status species. Much of the text for the IS/MND is quoted directly from the Baldwin Hills Master Plan without update or clear citation. This approach gives the erroneous impression that the data and surveys summarized are more recent than they actually are. Many of the species referenced are no longer listed, and there is no indication whatsoever of their presence as described in detail in Exhibit 1 to this attachment.
	Response	Species that are no longer listed as Species of Special Concern have been removed from the analysis. Evidence regarding the potential occurrence of special-status species was reviewed for the remaining species recommended by the commenter in "Exhibit I" of their comment letter. The Los Angeles pacific pocket Memorandum of Understanding was determined to be unlikely to occur in the project area. The remainder of the species recommended by the commenter in "Exhibit I" of their comment letter were included in the Section 4.4 of the IS/MND. References supporting these findings have been included to Section 5 of the IS/MND (References).
E-14	Comment	Please change as follows to adequately disclose environmental conditions: "The project site is within the subsurface administrative field boundary of the active, Inglewood Oil Field."
	Response	The suggested language has been added.

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Detailed comments provided in letter dated February 20, 2014
By Freeport-McMoRan Oil & Gas (Operator of the Inglewood Oil Field)

E-15	Comment	This paragraph states that "because methane gas may occur in the subsurface in the vicinity of oil and gas fields, the City of Los Angeles established Methane Zones and Methane Buffer Zones within the City limits." This statement leads one to believe that the only cause of methane in soils is the existence of oil and gas fields. This, however, is not the case. In the case of the soils of the immediately adjacent, active, Inglewood Oil Field (and therefore, it may be reasonably assumed the same conditions exist for project site soils), there are three types of gases that may exist within the geological and soil units underlying the active surface of the Inglewood Oil Field: 1) biogenic (swamp or sewer) gas; 2) thermogenic (field) gas; and, 3) processed natural (or piped) gas. This statement leads one to believe that the only cause of methane in soils is the existence of oil and gas fields. This, however, is not the case. In the case of the soils of the immediately adjacent, active, Inglewood Oil Field (and therefore, it may be reasonably assumed the same conditions exist for project site soils), there are three types of gases that may exist within the geological and soil units underlying the active surface of the Inglewood Oil Field: 1) biogenic (swamp or sewer) gas; 2) thermogenic (field) gas; and, 3) processed natural (or piped) gas. Thermogenic gas is generated at depth when increased temperatures and pressures alter organic material to form gases. Similar to biogenic gas, thermogenic gas contains a broad range of gas components including methane, ethane, propane, and butane, as well as trace memorandum of Understanding of toxic gases, including hydrogen sulfide. Activities at the Inglewood Oil Field produce oil and associated thermogenic gas. Due to the probability of methane gas releases from naturally occurring thermogenic and biogenic sources in this prolific oil and gas province, the City of Los Angeles has established a zoning ordinance identifying two zones, a Methane Zone and a Methane Buffer Zone (Figure 4 7). Special requirements for new construction, existing construction, and monitoring for methane have been established for these zones. The Baldwin Hills are not in the City of Los Angeles, and therefore are not classified on the methane map. However, the field is surrounded by such zones, and there is likelihood that methane conditions beneath the field are consistent with the relatively high background levels of methane in the Los Angeles Basin. (Cardno ENTRIX, 2012). The Inglewood Oil Field, as a whole, has established 94 grids, all of which have been tested for methane soil gas with an active testing program with soil gas methane concentrations within the Culver City portion of the Field indicative of background levels The IS/MND should be updated with this information to reflect evidence based, environmental conditions.
	Response	The following language was added to the referenced section 4.8-b: "Methane gas may accumulate in surface soils above oil fields, and near active or abandoned oil and gas wells. Three types of gases may exist within the geologic and soil units underlying the active surface of the Inglewood Oil Field: 1) biogenic (swamp or sewer) gas; 2) thermogenic (field) gas; and, 3) processed natural (or piped) gas. Thermogenic gas is generated at depth when increased temperatures and pressures alter organic material to form gases. Similar to biogenic gas, thermogenic gas contains a broad range of gas components including methane, ethane, propane, butane, and trace memorandum of Understanding of hydrogen sulfide. Activities at the Inglewood Oil Field produce oil and associated thermogenic gas, and FM O&G has established 94 grids within the Inglewood Oil Field for methane testing in soils (FM O&G, 2014). Due to the probability of methane gas releases from naturally occurring thermogenic and biogenic source, the City of Los Angeles has established a zoning ordinance identifying two zones: Methane Zone and Methane Buffer Zone. The Stoneview Nature Center is not in the City of Los Angeles, and therefore is not included on the City of Los Angeles methane map. However, Stoneview Nature Center occurs above the Inglewood Oil Field, and may contain elevated methane levels in subsurface soils."
E-16	Comment	This impact analysis concludes that the project will have a less than significant impact to the active, IOF by introducing hundreds of people to a the perimeter of a remote area of the active, IOF. As we mentioned in our letters on the Draft IS/MND, the project, this could increase vandalism of the IOF, and increase exposure to fires from cigarettes and fireworks, for example. Simply stating that such activities are illegal does not mitigate the environmental impact caused. The IS/MND does not provide for increased patrolling of the area – particularly during evening hours – and in conjunction with the related Park to Playa trail project and the additional users and access point the trail could provide. This is a potentially significant impact and appropriate mitigation must be applied to bring residual impacts to a less than significant levels. Such mitigation could include, for example, a landscaped buffer along the boundary of the project site immediately adjacent to the active, Inglewood Oil Field. FM O&G should be given an opportunity to review this landscaping plan to ensure its adequacy and compatibility with oil field operations.

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RESPONSE TO COMMENTS

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By Freeport-McMoRan Oil & Gas (Operator of the Inglewood Oil Field)

	Response	The eastern ridgeline of the Kenneth Hahn State Recreation Area is also in close proximity of an active oilfield, and is analogues to the Stoneview Nature Center in this regard. The east ridge line of the Kenneth Hahn State Recreation Area has never experienced problems with vandalism of oil field property or fires from discarded cigarettes. As noted in the IS/MND, smoking is illegal in County parks. The Los Angeles County Building Department will review landscaping plans to verify that such plans satisfy applicable requirements.

E-17	Comment	This analysis does not disclose existing site drainage patterns and how the proposed project would change them. This must be included to ensure the proposed project will not compromise the existing stormwater drainage pattern of the active, IOF as permitted by a site specific NPDES permit from the LARWQCB.
	Response	Best management practices (BMPs) to control runoff from the site will be specified in the site-specific Storm Water Pollution Prevention Plan (SWPPP) required by National Pollutant Discharge Elimination System (NPDES) requirements (Section 402 of the Clean Water Act). SWPPP requires that post-construction runoff must be equal to or less than runoff for pre-construction conditions. Therefore, there would be no net change in runoff to City Streets.

E-18	Comment	It is stated that noise analysis was performed for weekends only as a "conservative analysis." In order to accurately depict a reasonable, environmental baseline, and to comply with the CEQA, noise analysis must be performed during peak traffic hours and must include noise associated with oil and gas exploration, drilling, production, processing and associated activities of the active, Inglewood Oil Field to adequately disclose actual, environmental conditions.
	Response	The noise analysis in the December 2013 IS/MND includes peak hours on both weekdays and weekends. Noise from existing operations in the Inglewood Oil Field contributed to the ambient noise levels that were measured for this analysis. It is not necessary to estimate future noise levels from the IOF, because CEQA addresses only the *change* in noise exposures due to the Proposed Project. Nevertheless, the December 2013 IS/MND devotes two paragraphs to the issue of oilfield noise and concludes that mitigation measures prescribed in the Final Environmental Impact Report for the Baldwin Hills Community Standards District will preclude impacts on the Proposed Project.

E-19	Comment	This paragraph discusses the County's Park to Playa Trail project. The original design of this project proposed a public trail through the IOF parcel immediately south of the proposed project site and within the surface boundary of IOF, referred to as "Segment C." As FM O&G has repeatedly stated, this location is not feasible as it would significantly interfere with FM O&G's access to the mineral estates that comprise the IOF. Therefore, the IS/MND should analyze the reasonably foreseeable location of the trail on the Stoneview Nature Center site and remove any measures that could preclude the Park to Playa trail alignment from going through the Stoneview Nature Center site. Please see Response I-1 for a discussion and update.
	Response	The Baldwin Hills Regional Conservation Authority (BHRCA) is the lead agency for the separate Park to Playa regional trail project. Please see Response I-1 for a discussion and update.

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E-20	Comment	This mitigation measure provides for the closure of access from the proposed Stoneview Nature Center to the Park to Playa trail in the event daily traffic exceeds a certain threshold. If this mitigation provides for the closure of access between Park to Playa and the Stoneview Nature Center, Segment C of the Park to Playa trail would not be feasible to construct. The main project objective of the Park to Playa Trail is to connect the Kenneth Hahn State Recreation Area to the beach. By closing off access of the Trail to the Stoneview Nature Center, this project objective of the Park to Playa Trail will not be able to be implemented and the need to put the trail through the active, Inglewood Oil Field – which would interfere with oil field operations - would be diminished. As such, this mitigation measure should be revised so it does not precluded the reasonably foreseeable alignment of the Park to Playa trail through the Stoneview Nature Center site.
	Response	The Baldwin Hills Regional Conservation Authority (BHRCA) is the lead agency for the separate Park to Playa regional trail project. Please see Response I-1 for a discussion and update.

E-21	Comment	These tables indicate that a portion of the Stoneview Nature Center would be an “assembly area.” It should be clarified that this term is used for general parking requirement determinations and is not an indication of a specific use since no part of the proposed Stoneview Nature Center is designed nor depicted on plans to be an “assembly area.”
	Response	The comment is correct. The "assembly area" term is used to compute general parking needs.

E-22	Comment	As FM O&G has repeatedly stated: The original design of the Park to Playa project proposed a public trail through the IOF parcel immediately south of the proposed project site and within the surface boundary of IOF, referred to as “Segment C.” This location is not feasible as it would significantly interfere with FM O&G’s access to the mineral estates that comprise the IOF. Therefore, the IS/MND should analyze a location of the trail on the Stoneview Nature Center site and must not include measures that would preclude the trail from going through the Stoneview Nature Center site. The mineral estate is the dominate estate under California law and the mineral owner, or its lessee, has the superior right to use as much of the surface of the land as is reasonably necessary for the development of the mineral estate. As we have communicated to the County in the past, if Segment C of the Park to Playa trail is to be feasible, it must be routed through the Stoneview Nature Center site. Accordingly, the subject IS/MND must be revised to include the Park to Playa trail through this site and to adequately analyze cumulative impacts of the two projects. This section of Stoneview Nature Center IS/MND attempts to separate the two projects and restrict any association with the Park to Playa Trail. This constitutes piecemealing of the environmental analysis..
	Response	The Baldwin Hills Regional Conservation Authority (BHRCA) is the lead agency for the separate Park to Playa regional trail project. Please see Response I-1 for a discussion and update.

E-23	Comment	This analysis (and the analysis in the Hydrology section) does not disclose existing site drainage patterns and how the proposed project would change them. This must be included to ensure the proposed project will not compromise the existing stormwater drainage pattern of the Inglewood Oil Field as permitted by a site specific NPDES permit from the LARWQCB.
	Response	Best management practices (BMPs) to control runoff from the site will be specified in the site-specific Storm Water Pollution Prevention Plan (SWPPP) required by National Pollutant Discharge Elimination System (NPDES) requirements (Section 402 of the Clean Water Act). SWPPP requires that post-construction runoff must be equal to or less than runoff for pre-construction conditions. Therefore, there would be no net change in runoff to City Streets.

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RESPONSE TO COMMENTS

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By Freeport-McMoRan Oil & Gas (Operator of the Inglewood Oil Field)

E-24	Comment	Same as comment for page 4-93, 1st bullet point.
	Response	The Baldwin Hills Regional Conservation Authority (BHRCA) is the lead agency for the separate Park to Playa regional trail project. Please see Response I-1 for a discussion and update.
E-25	Comment	This section of the IS/MND suggests that the active, Inglewood Oil Field will be converted to a park. Any such reference or formal statements as to whether or not the IOF will be turned into a park are premature and misleading. There are several private individuals and entities with ownership interests that comprise the IOF. Assertions regarding the future use of the land for anything other than oil and gas exploration, drilling, production, processing and associated activities, are unsupported speculation absent indication that the applicable landowners are willing to relinquish their property rights. As such, it is inappropriate to include this discussion and figure in the IS/MND and both should be removed from the document.
	Response	Open space designations are included in the Baldwin Hills Park Master Plan prepared by the California Department of Parks and Recreation and the Baldwin Hill Conservancy.

E-26	Comment	The City of Culver City suggests in their comments on this IS/MND that an alternate access route through the active, Inglewood Oil Field be used for construction. No such access from La Cienega Blvd. exists and such an access would unreasonably interfere with oilfield operations. As such, this suggested alternate access route is not feasible and should not be included in the IS/MND. Additionally, such an access route would require private property owner authorization.
	Response	The County agrees that this option would create problems with right-of-way access. Based on the analysis provided in Section 4.16 of the IS/MND, traffic access to the Stoneview Nature Center is from Stoneview Drive. Impacts associated with this access are less than significant. Analysis of alternative access routes are not required.

COMMENT SET F

COMMENTS PROVIDED IN LETTER
BY NATIVE AMERICAN HERITAGE COMMISSION
DATED JANUARY 3, 2014

SATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
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January 3, 2014

Alioune Dioum, P.E.
County of Los Angeles Department of Public Works
900 South Fremont Avenue, 5th Floor
Alhambra, CA 91803

RE: SCH#2013061048; CEQA Notice of Completion; proposed Mitigated Negative Declaration for the **"Stoneview Nature Center Project;"** located in the Culver City area; Los Angeles County, California

Dear Alioune Dioum:

The Native American Heritage Commission (NAHC) has reviewed the above-referenced environmental document.

The California Environmental Quality Act (CEQA) states that any project which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064.5(b). To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

Contact the appropriate Information Center for a record search to determine :If a part or all of the area of project effect (APE) has been previously surveyed for cultural places(s), The NAHC recommends that known traditional cultural resources recorded on or adjacent to the APE be listed in the draft Environmental Impact Report (DEIR).

If an additional archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey. We suggest that this be coordinated with the NAHC, if possible. The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure pursuant to California Government Code Section 6254.10.

A list of appropriate Native American Contacts for consultation concerning the project site has been provided and is attached to this letter to determine if the proposed active might impinge on any cultural resources. Lack of surface evidence of archeological resources does not preclude their subsurface existence.

California Government Code Section 65040.12(e) defines "environmental justice" to provide "fair treatment of People...with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies" and Executive Order B-10-11 requires consultation with Native American tribes their elected officials and other representatives of tribal governments to provide meaningful input into the development of legislation, regulations, rules, and policies on matters that may affect tribal communities.

Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, pursuant to California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities. Also, California Public Resources Code Section 21083.2 require documentation and analysis of archaeological items that meet the standard in Section 15064.5 (a)(b)(f).

Lead agencies should consider first, avoidance for sacred and/or historical sites, pursuant to CEQA Guidelines 15370(a). Then if the project goes ahead then, lead agencies include in their mitigation and monitoring plan provisions for the analysis and disposition of recovered artifacts, pursuant to California Public Resources Code Section 21083.2 in consultation with culturally affiliated Native Americans.

Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

Dave Singleton
Program Analyst

CC: State Clearinghouse

Attachment: Native American Contacts list

Native American Contacts
Los Angeles County California
January 3, 2014

LA City/County Native American Indian Comm
Ron Andrade, Director
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Los Angeles , CA 90020
randrade@css.lacounty.gov
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(213) 386-3995 FAX

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
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gtongva@verizon.net
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Tongva Ancestral Territorial Tribal Nation
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,
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Gabrielino-Tongva Tribe
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Gabrielino /Tongva Nation
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Gabrieleno Band of Mission Indians
Andrew Salas, Chairperson
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Covina , CA 91723
gabrielenoindians@yahoo.
(626) 926-4131

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

his list s only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2013061048; CEQA Notice of Completion; proposed Mitigated negative Declaration for the Stoneview Nature Center Project; located in the Culver City area; Los Angeles County, California.

Native American Contacts
Los Angeles County California
January 3, 2014

Gabrielino-Tongva Tribe
Conrad Acuna,
P.O. Box 180 Gabrielino
Bonsall , CA 92003

760-636-0854 - FAX

Gabrielino /Tongva Nation
Sam Dunlap, Cultural Resorces Director
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Los Angeles , CA 90086
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909-262-9351

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

his list s only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2013061048; CEQA Notice of Completion; proposed Mitigated negative Declaration for the Stoneview Nature Center Project; located in the Culver City area; Los Angeles County, California.

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Attention: Alioune Dioum, Project Manager

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Comments provided in letter by Native American Heritage Commission dated January 3, 2014.

F-1	Comment	Contact the appropriate Information Center for a record search to determine :If a part or all of the area of project effect (APE) has been previously surveyed for cultural places(s), The NAHC recommends that known traditional cultural resources recorded on or adjacent to the APE be listed in the draft Environmental Impact Report (DEIR).
	Response	The appropriate California Historic Resources Information Center (CHRIS) office, the South Central Coastal Information Center (SCCIC), was contacted May 2013, and a records search completed. A portion of the APE had been surveyed in the past. The SCCIC records and the Native American Heritage Commission's (NAHC) Sacred Lands File (SLF) search did not indicate the presence of any traditional cultural properties on or adjacent to the APE.

F-2	Comment	If an additional archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey. We suggest that this be coordinated with the NAHC, if possible. The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure pursuant to California Government Code Section 6254.10.
	Response	An archaeological field survey of the property was conducted on April 29, 2013. Notes from the survey, the SCCIC records search, and contacts with the NAHC and Native American contacts provided by the NAHC, were used in preparation of the IS/MND. This background information is on file with UltraSystems. A formal report on these findings was not necessary for preparation of the IS/MND.

F-3	Comment	A list of appropriate Native American Contacts for consultation concerning the project site has been provided and is attached to this letter to determine if the proposed active might impinge on any cultural resources. Lack of surface evidence of archeological resources does not preclude their subsurface existence.
	Response	The NAHC was consulted April 24, 2013 and they provided findings of a search of their Sacred Lands File, as well as a list of local Native American tribes and tribal representatives to contact. All Native American tribes and representatives on that list were contacted to provide information on potential traditional properties in the APE of the project site and to address any concerns about the project. Responses from the NAHC and the local tribes were negative concerning knowledge of potential cultural properties. Their concerns about potential unknown subsurface cultural remains were addressed in IS/MND Section 4.5-b (Cultural Section).

F-4	Comment	California Government Code Section 65040.12(e) defines "environmental justice" to provide "fair treatment of People...with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies" and Executive Order B-10-11 requires consultation with Native American tribes their elected officials and other representatives of tribal governments to provide meaningful input into the development of legislation, regulations, rules, and policies on matters that may affect tribal communities.
	Response	See response to Comment F-3.

RESPONSE TO COMMENTS

REVISED INITIAL STUDY/MITIGATED, NEGATIVE DECLARATION, STONEVIEW NATURE CENTER dated December 2013

Submitted to Los Angeles County Department of Public Works

Attention: Alioune Dioum, Project Manager

SUMMARY OF COMMENTS	
Designation	**Description**

Comments provided in letter by Native American Heritage Commission dated January 3, 2014.

F-5	Comment	Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, pursuant to California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities. Also, California Public Resources Code Section 21083.2 require documentation and analysis of archaeological items that meet the standard in Section 15064.5 (a)(b)(f).
	Response	Mitigation Measure CUL-MM-2 states: The State of California Health and Safety Code Section 7050.5 states that in the event that human remains are discovered during construction activities, the following procedure shall be observed: All construction activity shall stop immediately and the qualified archaeologist will contact the Los Angeles County Coroner. The Coroner has two working days to examine human remains after being notified by the responsible person (e.g., the construction supervisor). If the coroner determines the remains to be Native American, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC will immediately notify the person it believes to be the Most Likely Descendent (MLD) of the deceased Native American. The MLD has 48 hours to make recommendations to the property owner, or representative, for the treatment or disposition, with proper dignity, of the human remains and grave goods. If the MLD does not make recommendations within 48 hours the owner shall reinter the remains in an area of the property secure from further disturbance following procedures required by the Public Resources Code, Sections 5097.94, 5097.98, 5097.99, and Health and Safety Code, Section 7050.5. If the County does not accept the descendant's recommendations, the owner or the descendent may request mediation by the NAHC.

F-6	Comment	Lead agencies should consider first, avoidance for sacred and/or historical sites, pursuant to CEQA Guidelines 15370(a). Then if the project goes ahead then, lead agencies include in their mitigation and monitoring plan provisions for the analysis and disposition of recovered artifacts, pursuant to California Public Resources Code Section 21083.2 in consultation with culturally affiliated Native Americans.
	Response	The archaeological and historic properties records search at the SCCIC, the NAHC's search of their Sacred Lands File, and responses from local Native American tribes, did not indicate the presence of any archaeological or historic properties in the APE. For this reason, there are no known properties to avoid.

F-7	Comment	Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.
	Response	This concern is addressed in Mitigation Measure CUL-MM-2 and the IS/MNDs Section 4.5-d (Cultural Resources).

COMMENT SET G

SUMMARY OF LETTER BY LINDA THOMAS
DATED DECEMBER 31, 2013

LTM

11 an on 31 ~~Dec~~ 13
LINDA M. THOMAS
5924 STONEVIEW DRIVE
CULVER CITY, CA 90232
213/839-2556

RECEIVED
JAN 06 2014
DEPT. PUBLIC WORKS
PROJECT MANAGEMENT DIVISION II

You are so cavalier...putting in a " nature Center complete w/ nylti activities that have nothing do do w/ Nature.

I live at 5924 and the noise and illegal infringement on my peace and privacy will be SIN SIGNIFICENT.

Sorry the broeken armcauses this bad typing.

ENVIRIONMENT effects will be significent.

WE have a street that cannot handly BIG traffic bd aur houses are close to the narrow road
and NOISE and significent nooise noise infringement on my quiet life,
WE have 5 parks w. in 15 nib of my front door.
WE need noe more noise and confusion.
Thewse monues soulc be used to feed the o poor
andngive comfort to a senior citizens home areaa.
TELL ISMND. NO NO NO
on infringement of private
abd personal se spca soace. THIS plan is outrageous.
Most of the nearby homews close to stone hav e senior s or small children. SHANE of your greed
SHAME on you..if there is natural open'

space...lets fill it up and take away PEACE and quiet.

Mrs Linda M. Thomas Owner or 5924 Stonevuew,

310 - 839 2556

I know you want the Nature Center next to your family home?
Truck, noise, [illegible]
distraction of our [illegible]
peace & privacy

L M Thomas

UltraSystems environmental management planning

RESPONSE TO COMMENTS

REVISED INITIAL STUDY/MITIGATED, NEGATIVE DECLARATION, STONEVIEW NATURE CENTER dated December 2013

Submitted to Los Angeles County Department of Public Works

Attention: Alioune Dioum, Project Manager

SUMMARY OF COMMENTS	
Designation	**Description**

Summary of letter by Linda Thomas dated December 31, 2013

G-1	Comment	Streets are too narrow to accommodate traffic, and the Nature Center would contribute to increase in noise, which would infringe on the peace and privacy of the senior citizens and small children in the area. There are enough parks in the area. We do not need any more.
	Response	The traffic study, which took into account the widths of local streets, determined that the Proposed Project would not have a significant impact on traffic circulation. The December 2013 IS/MND also considered noise from project-induced traffic and found that increases due to the Proposed Project would be less than significant. Finally, normal activities at the Nature Center are not expected to generate more noise than the site's recent use as a school. The MOU prohibits "amplified sound or organized events that exceed 100 persons." Finally, provisions to alleviate noise complaints and other nuisance issues can be incorporated into the park activities and operations plan described in the MOU between the County of Los Angeles Department of Parks and Recreation and the City of Culver City. Your comments will be presented to County decision makers.

COMMENT SET H

STATE CLEARING HOUSE COVER LETTER

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

January 28, 2014

Alioune Dioum
Los Angeles County Dept. of Public Works
900 S. Fremont Avenue, 5th Floor
Alhambra, CA 91803

Subject: Stoneview Nature Center
SCH#: 2013061048

Dear Alioune Dioum:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on January 27, 2014, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2013061048
Project Title Stoneview Nature Center
Lead Agency Los Angeles County

Type **MND** Mitigated Negative Declaration

Description The proposed project would include demolition of the existing structures on the project site, the re-abandonment of the Dabney Lloyd No. 3 oil well, located under an existing building, and the construction of a new public nature center. The new center will include a one story, approximately 4,000 sf building with a multi-purpose room, staff offices, accessible restrooms, and a terrace and observation area; landscaping elements such as botanical garden, nature grove, interpretive signage, yoga deck, native garden, demonstration/community garden, seating, passive meadow, an exercise area, walking paths/trails, detention basin, and bioswale; and parking.

Lead Agency Contact

Name Alioune Dioum
Agency Los Angeles County Dept. of Public Works
Phone 626 300 3273 **Fax**
email
Address 900 S. Fremont Avenue, 5th Floor
City Alhambra **State** CA **Zip** 91803

Project Location

County Los Angeles
City Culver City
Region
Lat / Long 34° 0' 52" N / 118° 22' 38" W
Cross Streets La Cienega Blvd / Rodeo Dr
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways Hwy 10 and 405
Airports
Railways
Waterways Ballona Creek
Schools Baldwin Hills ES
Land Use Vacant school/R1 Residential Single Family/Low Density Single Family & Open Space

---

Project Issues Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects

---

Reviewing Agencies Department of Fish and Wildlife, Region 5; Resources Agency; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Resources, Recycling and Recovery; California Highway Patrol; Caltrans, District 7; Air Resources Board; Regional Water Quality Control Board, Region 4; Department of Toxic Substances Control; Native American Heritage Commission

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Date Received 12/27/2013 **Start of Review** 12/27/2013 **End of Review** 01/27/2014

CYCAR
01/27/14
E

SATE OF CALIFORNIA

Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
(916) 373-3715
Fax (916) 373-5471
Web Site www.nahc.ca.gov
Ds_nahc@pacbell.net
e-mail: ds_nahc@pacbell.net

RECEIVED
JAN 08 2014
STATE CLEARING HOUSE

January 3, 2014

Alioune Dioum, P.E.
County of Los Angeles Department of Public Works
900 South Fremont Avenue, 5th Floor
Alhambra, CA 91803

RE: SCH#2013061048; CEQA Notice of Completion; proposed Mitigated Negative Declaration for the **"Stoneview Nature Center Project;"** located in the Culver City area; Los Angeles County, California

Dear Alioune Dioum:

The Native American Heritage Commission (NAHC) has reviewed the above-referenced environmental document.

The California Environmental Quality Act (CEQA) states that any project which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064.5(b). To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

Contact the appropriate Information Center for a record search to determine :If a part or all of the area of project effect (APE) has been previously surveyed for cultural places(s), The NAHC recommends that known traditional cultural resources recorded on or adjacent to the APE be listed in the draft Environmental Impact Report (DEIR).

If an additional archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey. We suggest that this be coordinated with the NAHC, if possible. The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure pursuant to California Government Code Section 6254.10.

A list of appropriate Native American Contacts for consultation concerning the project site has been provided and is attached to this letter to determine if the proposed active might impinge on any cultural resources. Lack of surface evidence of archeological resources does not preclude their subsurface existence.

California Government Code Section 65040.12(e) defines "environmental justice" to provide "fair treatment of People...with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies" and Executive Order B-10-11 requires consultation with Native American tribes their elected officials and other representatives of tribal governments to provide meaningful input into the development of legislation, regulations, rules, and policies on matters that may affect tribal communities.

Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, pursuant to California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities. Also, California Public Resources Code Section 21083.2 require documentation and analysis of archaeological items that meet the standard in Section 15064.5 (a)(b)(f).

Lead agencies should consider first, avoidance for sacred and/or historical sites, pursuant to CEQA Guidelines 15370(a). Then if the project goes ahead then, lead agencies include in their mitigation and monitoring plan provisions for the analysis and disposition of recovered artifacts, pursuant to California Public Resources Code Section 21083.2 in consultation with culturally affiliated Native Americans.

Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

Dave

Dave Singleton
Program Analyst

CC: State Clearinghouse

Attachment: Native American Contacts list

RESPONSE TO COMMENTS

REVISED INITIAL STUDY/MITIGATED, NEGATIVE DECLARATION, STONEVIEW NATURE CENTER dated December 2013

Submitted to Los Angeles County Department of Public Works

Attention: Alioune Dioum, Project Manager

SUMMARY OF COMMENTS	
Designation	**Description**

Cover letter provided by State Clearing House Cover Letter

H-1	Comment	The state clearing houses provided a cover letter identifying Responsible Agencies contacted , and attached comments for the NAHC.
	Response	The County acknowledges receipt of the cover letter and attachment.

COMMENT SET I

COMMENTS FROM LLOYD PROPERTIES

LLOYD PROPERTIES
A CALIFORNIA LIMITED PARTNERSHIP
21600 OXNARD STREET, SUITE 1040
WOODLAND HILLS, CALIFORNIA 91367
TELEPHONE 818/444-7177
FACSIMILE 818/444-7179

March 10, 2014

VIA ELECTRONIC MAIL & OVERNIGHT DELIVERY

Mr. Alioiune Dioum, P.E.
Project Manager
Los Angeles County Department of Public Works
900 South Fremont Avenue, 5th Floor
Alhambra, California 91803

Re: Comments on Initial Study/Mitigated Negative Declaration ("IS/MND") for the Proposed Stoneview Nature Center ("Nature Center")

Dear Mr. Dioum:

Lloyd Properties ("Lloyd") is an owner of sub-surface oil, gas and other hydrocarbon and mineral rights in the Inglewood Oil Field ("IOF"), and an associated reserved drill site easement, adjacent to the Nature Center. The surface of the oil field and the fee interest underlying the drill site easement are currently owned by the Baldwin Hills Regional Conservation Authority ("BHRCA"), subject to a lease of the surface and mineral extraction rights held by the operator of the IOF, Freeport-McMoRan Oil & Gas ("FMOG"). Subsequent to the circulation and comment period for the IS/MND, there have been continuing discussions among Lloyd, FMOG, the County and BHRCA regarding the appropriate alignment for "Segment C" of the Park to Playa trail, in order to ensure that activities related to the Nature Center, and the associated Park to Playa trail, are implemented in a way that minimize potential impacts to IOF operations.

The original proposed alignment for Segment C conflicted with the Lloyd's rights under its drill site easement and impacted the oil and gas operations. A potential alternative alignment that would move portions of Segment C onto the Nature Center property has been identified, and Lloyd is working together with BHRCA to move the impacted drill site conditioned upon the BHRCA's approval of the mutually agreeable, revised trail alignment. We understand that BHRCA must still undertake appropriate environmental review as lead agency for the Park to Playa trail. Nonetheless, we want to ensure that any approval involving the Nature Center takes the potential new alignment into account. Accordingly, Lloyd is submitting these comments to urge that the final environmental clearance and any project approval documents reflect that portions of the pending Segment C alignment for the Park to Playa trail are planned to be routed through the proposed Nature Center site.

The IS/MND for the Nature Center references Segment C of the Park to Playa trail, and acknowledges that it is related to the Nature Center project. At page 4-102 of the IS/MND it is indicated that the segments and construction details for Segment C have yet to be finalized, but that cumulative impacts related to Segment C and the Nature Center are expected to be "small". However, absent some constraints on the location of Segment C, we believe this statement is not supportable. While we concur with the conclusion in the IS/MND that other actions and BHCRA reviews will be required to provide a final alignment for Segment C, the revised trail alignment proposed to be located in part on the Nature Center property, minimizes impacts to the current oil fields' operations. We believe that the IS/MND for the Nature Center needs to reflect that fact, and acknowledge that the so-called Segment C may well be routed through the proposed Nature Center site. Absent an acknowledgement, the conclusion in the IS/MND that there would not be potential cumulative impacts, is incorrect. Indeed, to the extent the Nature Center is facilitating general public access to a trail through an active oil field, we do not believe there has been sufficient analysis in the IS/MND to justify a conclusion of no impact. However to the extent the trail alignment is revised to be located on the Nature Center property, we believe that the statement made on page 4-55 that the project will not result in an impact to available mineral resources is supportable.

Thus, we request that the IS/MND be revised to reflect that (1) the so-called Segment C alignment is now proposed to be routed through the proposed Nature Center site, (2) an alignment that crosses the Nature Center property is consistent with the IS/MND analysis and there are no environmental impacts to the Nature Center site expected from this revised alignment, that were not discussed in the IS/MND, and (3) that the transfer documents from BHRCA to the County should reserve out the trail alignment for Segment C.

Lloyd Properties looks forward to continuing our collaborative discussions of how best to locate the trail in a way that it does not conflict with the property rights and oil and gas operations. We have communicated with FMOG and they are in agreement with this approach. We very much appreciate BHRCA's and the County's cooperation to date and are confident that we will come up with a solution that works for all.

Very truly yours,

Gary W. Brummett

Gary W. Brummett
President

RESPONSE TO COMMENTS

REVISED INITIAL STUDY/MITIGATED, NEGATIVE DECLARATION, STONEVIEW NATURE CENTER dated December 2013

Submitted to Los Angeles County Department of Public Works

Attention: Alioune Dioum, Project Manager

SUMMARY OF COMMENTS	
Designation	**Description**

General comment provided by Lloyd Properties dated March 10, 2014

I-1	Comment	Lloyd Properties' late comment letter updates the status of the Park to Playa proposed trail alignment efforts for trail Segment C . It acknowledges that BHRCA is the lead agency for the Park to Playa trail project and urges that it can only support a revised trail alignment which would cross the nature center project property and thereby avoid claimed impacts of the nature center and trail together on oil field operations. Lloyd requests that the revised MND reflect the updated proposal and that the environmental analysis will be supportable only if the trail project alignment is changed as proposed. It further indicates that it has communicated with FMOG , which agrees with its approach.
	Response	The proposed County Stoneview Nature Center is a stand alone project and is not a part of the Park to Playa trail project. The nature center Revised MND indicates that Segment C alignment of the Park to Playa trail project will be revised from its preliminary proposed alignment, and that any new proposed alignment will be the subject of appropriate environmental review by Baldwin Hills Resources Conservation Authority ("BHRCA"), separate lead agency for the Park to Playa trail project. The nature center document addresses a future pedestrian connection to this regional trail and includes a description of the lockable gate at the perimeter of the nature center for such a future connection to what is called Segment C of the trail. The nature center Revised MND acknowledges that the preliminary trail alignment shown is to be revised at a later time following actions by BHRCA. The analysis of the nature center project impacts does not depend on the future final alignment of the Park to Playa trail project, and the nature center design anticipates, and does not preclude, later realignment of a trail segment. A number of comments from oil field interests indicated that they could not agree with the analysis in the MND unless the proposed trail segment in the Park to Playa trail is realigned away from certain oil field and drilling areas. Lloyd Properties, a mineral rights owner in the Inglewood Oil Field has written a late comment indicating an approach now has been discussed that has the support of FMOG as well. Lloyd indicates that a realignment of the Park to Playa trail which would cross the nature center property,(outside of the perimeter fencing), and which would alleviate their concerns about impacts of the nature center project has been proposed following the close of the comment period on the nature center project, and that this new proposed alignment is subject to review and approval by BHRCA and appropriate discretionary actions to implement the trail. The March 10, 2014 comment from Lloyd updates the status of the Park to Playa trail project alignment efforts for trail Segment C. A revised alignment closer to the nature center improvements and planned access gate is consistent with the environmental analysis for the nature center Revised MND which anticipated a gated access for pedestrian access between the nature center and the future final alignment. We understand from this letter that both Lloyd and FMOG support the approach of the recently proposed revised trail alignment, and that Lloyd has stated that it can agree with the nature center evaluation in the Revised MND only if a new alignment substantially like the new proposal is evaluated and approved.

ATTACHMENT C

**DEPARTMENT OF PUBLIC WORKS:
STONEVIEW NATURE CENTER PROJECT
CULVER CITY
ADOPT THE REVISED MITIGATED NEGATIVE DECLARATION AND
MITIGATION MONITORING AND REPORTING PROGRAM
APPROVE CAPITAL PROJECT
APPROVE APPROPRIATION ADJUSTMENT
ACCEPT TRANSFER OF PROPERTY AND RELATED ACTIONS
SPECS. 7232; CAPITAL PROJECT NO. 70007
(SECOND DISTRICT)
(4 VOTES)**

I. MEMORANDUM OF UNDERSTANDING BETWEEN THE CITY OF CULVER CITY AND THE COUNTY OF LOS ANGELES DEPARTMENT OF PARKS AND RECREATION FOR THE STONEVIEW NATURE CENTER OPERATION

MEMORANDUM OF UNDERSTANDING
BETWEEN
THE CITY OF CULVER CITY
AND
COUNTY OF LOS ANGELES DEPARTMENT OF PARKS AND RECREATION
FOR
THE STONEVIEW NATURE CENTER OPERATION

This Memorandum of Understanding (MOU) is made and entered into this _______ day of ______________, 2014 between the City of Culver City (City) and the County of Los Angeles Department of Parks and Recreation (County) regarding the design, construction and operation of the Stoneview Nature Center site (Center).

WITNESSETH

WHEREAS, the County is the owner of the property located on 5950 Stoneview Drive, Culver City CA 90232 (Property), adjacent to the Kenneth Hahn State Recreation Area (Hahn Park), and is committed to providing recreational opportunities and services to residents of Los Angeles County; and

WHEREAS, the 5-acre Property is located within the City of Culver City, and the City is also committed to providing its residents with recreational opportunities and services; and

WHEREAS, the construction of the Center will include a community building, gardens, landscaping, walking paths, parking lot, and other site amenities.

NOW, THEREFORE, in consideration of the mutual covenants herein set forth and the mutual benefits to be derived therefrom, the parties agree as follows:

I. PURPOSE

The purpose of this MOU is to set out terms and conditions under which the City and County agree to cooperatively work together addressing Center-related matters for mutual benefit of the community.

II. DESIGN

City shall be provided an opportunity to review and comment on scoping documents during the design process of the Center. The City shall provide comments to the County of Los Angeles Department of Public Works (DPW) within two (2) weeks of receipt in order to ensure prompt consideration.

III. CONSTRUCTION

Construction of the Center shall only take place between 8:00 a.m. and 5:00 p.m. Monday through Friday; no construction shall take place on weekends/holidays. Debris shall only be removed from the site between 9:00 a.m. and 4:00 p.m.

Monday through Friday. All construction related vehicles will be parked on the Center site. There will be no parking of construction related vehicles (including construction workers) in the adjoining neighborhood. DPW will designate Alioune Dioum, Project Manager, with the County Public Works Department as the ombudsmen who will address any questions or concerns during the construction process. A sign will be posted with the project manager's contact information.

IV. TRAFFIC ALLEVIATION

Since January 2013, DPW has operated a community shuttle, known as The Link: Baldwin Hills Parklands (Shuttle), which runs on a loop from the Exposition Line Light Rail Station at La Cienega Boulevard to the Baldwin Hills Scenic Overlook and Hahn Park. Once the Center is completed, the route of the Shuttle will be modified to also stop at the Center on weekends and holidays from 8:00 a.m. to 5:00 p.m. The shuttle loop runs approximately every 20-25 minutes. The modified route will be maintained as long as there is a demonstrated demand for the service (an average of five passengers per hour during the highest two hours of usage during the day). However, if demand is consistently low, the County will work with the City to promote the Shuttle before modifying or halting the route.

There shall be no directional signage to the Center from nearby thoroughfares and intersections including but not limited to Jefferson Boulevard and La Cienega Boulevard.

County shall allocate $100,000 for potential future traffic and parking analysis and potential traffic-calming and parking mitigation measures, should the City, in collaboration with the County, determine such measures are needed after the Center opens. If mitigation measures prove to be inadequate and if, in particular, parking demand exceeds supply at the site or an increase in daily traffic of 120 vehicles or more attributable to the Center is measured on any of the surrounding City streets, County, in consultation with City, shall consider additional mitigation measures (funded by County), including restrictions on the number or size of park activities or closing/restricting trail access from the park.

A traffic monitoring program should be established that includes taking "before-project" traffic counts and parking surveys on Stoneview Drive and Lenawee Avenue between Stoneview Drive and Wrightcrest Drive (at both ends of Stoneview to capture vehicles entering the Center from both directions) and the School site prior to construction, and "after-project" traffic counts and parking surveys once the Stoneview Nature Center is open and operating. The before and after data will be compared to determine the actual increase in daily traffic and parking utilization associated with the project and be used in determining the need for further mitigation as previously stated.

The County will meet and confer with the City on any proposed changes.

V. PARKING

It is anticipated that the Center and associated parking lot shall be open daily for public access from 8:00 a.m. to 5:00 p.m. (unless otherwise noted for night community meetings, voting, and special programs). Parking shall be provided to the public free of charge and vehicular access shall be controlled.

County shall designate a specific parking area at Hahn Park for users of the planned Park to Playa trail. Approximately 20-30 parking spaces shall be located at the entrance to the Olympic Forest and shall be free of charge for trail users. The parking spaces shall be constructed in coordination with the Park to Playa improvements planned for Hahn Park; construction is scheduled to begin in 2014.

The Center shall consist of low-impact design features consistent with the schematic plan presented to the community, which was designed to limit parking demands.

The County will meet and confer with the City on any proposed changes.

VI. PARK ACTIVITIES AND OPERATIONS PLAN

Consistent with the plans envisioned during the community planning process, park activities shall generally consist of passive uses including, but not limited to, small organized tours through the facility and gardens, planting in the community gardens, yoga classes, walking, and cooking demonstration classes.

It is anticipated that the building at the Center site shall be staffed daily by County employees from 8:00 a.m. until 5:00 pm. (unless otherwise noted for night community meetings, voting, and special programs). The building shall also be made available on a scheduled basis to the Blair Hills Neighborhood Association and other local homeowner and community organizations for meetings and events including, but not limited to, voting, disaster preparedness, and other educational workshops, subject to County policies.

No amplified music or alcoholic beverages will be allowed; however, this policy will be reviewed and reevaluated as necessary at quarterly community meetings.

For all events at the Center attracting a large number of people (over 50 and up to 100), parking utilization shall be monitored and reported by County park staff to see if the on-site parking is adequate to accommodate the combined parking demand from the event and other park visitors. The County shall notify the City in advance of all such events during the first year of operation so that the City will be able to independently verify that on-site parking demand is being met. If the County and City jointly determine that the parking demand cannot be accommodated on-site, the maximum size of future events will be reduced accordingly.

In addition to the above, if noise complaints or other nuisance issues related to events become a problem, the County and City will work cooperatively to alleviate the problem, either through additional controls on the type of events allowed, the time of day that these events are scheduled, a reduction in the number of such events at the facility, and/or by reducing the size of future events. County will restrict the number of events over 50 and up to 100 attendees, to no more than twelve per year.

The County will meet and confer with the City on any proposed changes.

A formal operations plan shall be drafted by the County.

VII. <u>CONFORMANCE WITH THE REVISED INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION FOR THE STONEVIEW NATURE CENTER</u>

The County will fully implement, comply with, and enforce all of the mitigation measures set forth in the Revised Initial Study/Mitigated Negative Declaration for the Stoneview Nature Center to the extent required by law. The requirements of this MOU should be considered additive to and not in place of such mitigation measures. In the event of a conflict in the requirements of the two documents, the more stringent requirement will apply.

VIII. <u>QUARTERLY COMMUNITY MEETINGS</u>

County shall meet quarterly with community stakeholders and City representatives to review and address traffic, parking and other concerns associated with the Center site. This shall be coordinated through the Blair Hills Homeowners Association. These meetings shall continue until they are jointly determined to no longer be necessary by the County, City, and Blair Hills Homeowners Association.

The County will meet and confer with the City on any proposed changes.

IX. <u>AMENDMENTS</u>

This MOU may only be amended by mutual consent of both parties. Neither verbal agreements nor conversation by any officers, employees and/or representatives of either party shall affect or modify any of the terms and conditions of this MOU.

Any change to the terms of this MOU, including those affecting the responsibilities of the parties shall be incorporated into this MOU by a written amendment that is properly executed.

X. <u>GENERAL PROVISIONS</u>

A. <u>Applicable Law</u>
The terms of this MOU shall be interpreted according to the laws of the State of California. If litigation arises out of this MOU, the venue shall be

in the Superior Court of Los Angeles County. The parties hereto shall be bound by all federal, state and local laws, ordinances, regulations, and directives pertaining to the services to be performed hereunder.

B. Rights and Remedies Are Cumulative

Except as otherwise expressly stated herein, the rights and remedies of the parties are cumulative, and the exercise by a party of one or more of such rights or remedies shall not preclude the exercise by it, at the same time or different times, of any other rights or remedies for the same default or any other default by the other party. Except as otherwise expressly stated herein, neither party is waiving any rights or remedies it may have under applicable law, and no such waiver will be implied or inferred in the absence of express language of any such waiver.

C. Attorney Fees

Each party shall bear its own attorney's fees and other costs in any legal action or other proceeding including arbitration or an action for declaratory relief brought between the parties to enforce this MOU or because of a dispute, breach, default, or misrepresentation in connection with this MOU.

D. Further Acts

Each party hereto shall execute such further documents and do such further acts as may be reasonably required to effectuate the parties' intent and carry out the terms of this MOU.

E. Severability

If any clause, provision or section of this MOU shall be ruled invalid by any court of competent jurisdiction, the invalidity of such clause, provision or section shall not affect any of the remaining provisions.

F. Authority

Contingent upon approval of the respective governing boards, each person executing this MOU on behalf of a party hereby represents and warrants that (i) the signatory hereto has authority to sign on behalf of the stated party, (ii) such authority has been duly and validly conferred by that party's governing body, and (iii) said entity has full right and authority to enter into this MOU.

G. Term

This MOU shall be effective upon execution by all parties. It shall remain in full force and effect, unless terminated sooner, for ten (10) years from the date of execution. Thereafter, the MOU may be extended for two (2) optional five (5) year terms, for a maximum term of twenty (20) years, upon mutual written agreement by both parties. Notwithstanding the above, at any time during the term of this MOU, either party may terminate the MOU upon 365 day written notice to the other party.

IN WITNESS WHEREOF, the City of Culver City and the County of Los Angeles Department of Parks and Recreation hereto have executed this MOU on the day, month, and year first written above.

THE CITY OF CULVER CITY

By Martin R. Cole

20 FEB 2014

Date

Title: ASST. CITY MANAGER

COUNTY OF LOS ANGELES DEPARTMENT OF PARKS AND RECREATION

By ____________________

____

Date

Title: ____________________

APPROVED AS TO FORM:

County Counsel

By: ____________________ Date: ____________________

Culver City, City Attorney

By: Heather S. Baker Date: 2/20/14

Heather Baker

ASSISTANT CITY ATTORNEY

PINK

BA FORM 03/13

BOARD OF SUPERVISORS OFFICIAL COPY

COUNTY OF LOS ANGELES

REQUEST FOR APPROPRIATION ADJUSTMENT

DEPT'S. NO. 060

DEPARTMENT OF CHIEF EXECUTIVE OFFICE

April 22, 2014

AUDITOR-CONTROLLER:
THE FOLLOWING APPROPRIATION ADJUSTMENT IS DEEMED NECESSARY BY THIS DEPARTMENT. PLEASE CONFIRM THE ACCOUNTING ENTRIES AND AVAILABLE BALANCES AND FORWARD TO THE CHIEF EXECUTIVE OFFICER FOR HIS RECOMMENDATION OR ACTION.

ADJUSTMENT REQUESTED AND REASONS THEREFOR

FY 2013-14

4 - VOTES

SOURCES

PARKS AND RECREATION
PK-Stoneview Nature Center (2)
A01-CP-88-8752-65043-70007
Rev: State-Other / Capital Projects
INCREASE REVENUE

SOURCES TOTAL: $ 5,000,000

USES

PARKS AND RECREATION
PK-Stoneview Nature Center (2)
A01-CP-6014-65043-70007
Capital Assets-Building and Improvements
INCREASE APPROPRIATION

USES TOTAL: $ 5,000,000

JUSTIFICATION

APPROPRIATION ADJUSTMENT OF $5,000,000 FROM THE BALDWIN HILLS CONSERVANCY/STATE GRANT PROPOSITION 40 IS NECESSARY TO FULLY FUND THE STONEVIEW NATURE CENTER PROJECT (C.P. 70007).

AUTHORIZED SIGNATURE Sabra White, CEO Manager

BOARD OF SUPERVISOR'S APPROVAL (AS REQUESTED/REVISED)

REFERRED TO THE CHIEF EXECUTIVE OFFICER FOR ---

[ ] ACTION

[V] RECOMMENDATION

AUDITOR-CONTROLLER BY

B.A. NO. 180

April 10 20 14

[V] APPROVED AS REQUESTED

[ ] APPROVED AS REVISED

CHIEF EXECUTIVE OFFICER BY

April 11 20 14